Towards a workable renewable energy framework in South Africa

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I hereby declare that I have read and understood the regulations governing the submission of LLM in Environmental Law dissertations, including those relating to length and plagiarism, as contained in the rules of this University, and that this dissertation conforms to those regulations.

Signed:

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ABSTRACT

This dissertation aims to determine whether a workable legal framework for renewable energy (RE) exists in South Africa by comparing the country's existing policy and legislative frameworks in order to highlight strengths and weaknesses, and juxtaposing this overall position against contemporary foreign legislation from the United States in an effort to discern relevant and viable best practices. Key issues that are considered include: the Government's commitment to RE and energy efficiency; environmental protection and RE as drivers for social development; job creation and sustainable economic growth; the governance of and relevant institutions in the energy sector; public participation, education and access to information in terms of RE; and, finally, the use of market-based instruments for the support of RE in South Africa.

The research found that South Africa's legal framework is largely on par with international best practice in terms of the above issues. Rather than a lack of substantive content in the legal framework, implementation and political commitment (buy-in) appears to be inadequate. However, issues on which South Africa's legal framework is found to be wanting include: a lack of binding RE targets and full costing in the energy sector; the Government's reluctance to enter public–private partnerships despite its current lack of capacity; and an almost unfettered executive discretion in terms of RE development and deployment.

This dissertation concludes that the Government has failed to take a long-term view of the energy sector, choosing, instead, to accomplish interim social upliftment through short-term utilization of coal power at the expense of the environment and future generations. This points to inadequate transparency and institutional accountability in the sector. Vague legislative mandates and a seeming lack of political will and insight in South Africa necessitates a comprehensive legislative review before RE can play a part in the future development of the country.

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LIST OF ABBREVIATIONS

ACES ACT	American Clean Energy and Security Act, HR 2454 (2009)
BoR	Bill of Rights
CC	Constitutional Court
CCS	Carbon Capture and Sequestration
CDM	Clean Development Mechanism
CDP	Carbon Disclosure Project
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women, 1981 United Nations General Assembly Resolution 34/180 (1979)
CER	Certified Emissions Reduction
CO_2	Carbon Dioxide
CONSTITUTION	Constitution of the Republic of South Africa Act 108 of 1997
COP 15	United Nations Climate Change Conference 2009 (Copenhagen)
DE	Department of Energy (South Africa)
DEAT	Department of Environmental Affairs and Tourism (South Africa)
DME	Department of Minerals and Energy (South Africa)
DSM	Demand Side Management
DWEA	Department of Water and Environmental Affairs (South Africa)
EAP	Environmental Assessment Practitioner
EE	Energy Efficiency
EE STRATEGY	National Energy Efficiency Strategy of the Republic of South Africa – First Review (2008)
EIA	Environmental Impact Assessment
EGI	Electricity Governance Initiative
EIP	Environmental Implementation Plan
EMF	Environmental Management Framework

EMP	Environmental Management Plan
ENERGY WHITE PAPER	White Paper on the Energy Policy of the Republic of South Africa (1998)
ENVIRONMENTAL WHITE PAPER	White Paper on Environmental Management Policy for South Africa (1998)
EPA	US Environmental Protection Agency
ER ACT	Electricity Regulation Act 4 of 2006
ESCo	Energy Services Company
ETS	Emissions Trading Scheme
EU ETS	European Union Emissions Trading Scheme
GEAR	Growth, Employment and Redistribution Strategy
GHG	Greenhouse Gas
ICESCR	International Covenant on Economic, Social and Cultural Rights, 1966 United Nations General Assembly Resolution 2200A(XXI) (1966)
IDASA	Institute for Democracy in Southern Africa
IEP	Integrated Energy Plan
IEM	Integrated Environmental Management
IPP	Independent Power Producer
IRP	Integrated Resource Plan
ISO	Independent Systems Operator
ITA	Income Tax Act 58 of 1962
JSE	Johannesburg Stock Exchange
LTMS	Long Term Mitigation Scenarios (2007)
MASTER PLAN	Energy Security Master Plan – Electricity 2007-2025 (2007)
MBI	Market-based Instrument
MBI PAPER	Draft Policy Paper: A Framework for Considering Market-based Instruments to Support Environmental Fiscal Reform in South Africa (2006)
ME	Ministry of Energy
NBI	National Business Initiative

NEEA	National Energy Efficiency Agency
NE ACT	National Energy Act 34 of 2008
NEM ACTS	National Environmental Management Acts
NEMA	National Environmental Management Act 107 of 1998
NEMAQA	National Environmental Management: Air Quality Act 39 of 2004
NER ACT	National Energy Regulator Act 4 of 2006
NERSA	National Energy Regulator of South Africa
NGO	Non-governmental Organisation
NIRP	National Integrated Resource Plan
NT	National Treasury (South Africa)
NTSP	National Treasury Strategic Plan
PAIA	Promotion of Access to Information Act 2 of 2000
PAJA	Promotion of Just Administration Act 3 of 2000
PPA	Power Purchase Agreement
PCDP	Product Carbon Disclosure Program
RDP	Reconstruction and Development National Development Policy
RE	Renewable Energy
RE WHITE PAPER	White Paper on the Renewable Energy Policy of the Republic of South Africa (2003)
REDS	Regional Electricity Distributors
REFIT	Renewable Energy Feed-in Tariffs
REPA	Renewable Energy Purchasing Agency
RLA ACT	Revenue Laws Amendment Acts
RSA	Republic of South Africa
SANEDI	South African National Energy Development Institute
SANERI	South African National Energy Research Institute
SAPP	Southern African Power Pool
SEED	State Energy and Environment Development

	Funds
TLA ACT	Taxation Laws Amendment Acts
UCT ERC	University of Cape Town Energy Research Institute
UNFCCC	United Nations Framework Convention on Climate Change, 1992 (1994) 31 ILM 849
US CRESES	University of Stellenbosch Centre for Renewable and Sustainable Energy Studies
USA	United States of America

1. INTRODUCTION

The discussion around energy generation has grown in prominence in recent years due to the increased international focus on the causes and effects of climate change. Under the *United Nations Framework Convention on Climate Change* (*UNFCCC*),[1] the majority of the world's nations have endeavoured to stabilise greenhouse gas (GHG) concentrations in the atmosphere and thus address the issues of climate change. It is widely acknowledged that conventional energy generation is one of the largest contributors to atmospheric pollution on the planet,[2] to the extent that even countries which have not ratified the *Kyoto Protocol*[3] have taken legislative steps to combat climate change.[4]

South Africa signed the *UNFCCC* in 1997,[5] the same year that the *Kyoto Protocol* committed industrialised countries to reduce emissions. While South Africa, as a developing country, is not obliged to meet such targets, emissions reduction is likely to become a major factor in future international trade and investment.[6] As the largest emitter of GHGs on the African continent,[7] South Africa also has an ethical obligation to lead the way in these reductions, both in the light of its energy intensive economy and its strong reliance on coal for energy.[8]

Renewable energy has benefitted from the increased focus on the environment, with some nations creating enabling environments for the expansion of RE power generation more successfully than others.[9] The need for countries to acquire workable legislative frameworks in order to promote and develop RE within their borders has been highlighted internationally as a

[1] United Nations Framework Convention on Climate Change, 1992 (1994) 31 ILM 849.
[2] Department of Minerals and Energy, *White Paper on Renewable Energy Policy of the Republic of South Africa* (2003), at i.
[3] Kyoto Protocol 1997 (1998) 37 ILM 22.
[4] American Clean Energy and Security Act, HR 2454 (2009). The United States became a signatory to the Kyoto Protocol in 1998, but has yet to ratify it.
[5] *Supra* note 1.
[6] RE White Paper (*supra* note 2), at 40.
[7] RE White Paper (*supra* note 2), at 3.
[8] RE White Paper (*supra* note 2), at vii.
[9] UN data 'Wind electricity.' Available at http://data.un.org/Data.aspx?d=EDATA&f=cmID:EW [Accessed 10 September 2010].

matter of social, economic and environmental priority.[10] In South Africa this process is guided by the *White Paper on the Energy Policy of the Republic of South Africa* (*Energy White Paper*),[11] which acknowledges that:

> *'The challenge facing Government is to create a policy framework with appropriate legal, fiscal and regulatory instruments that attract domestic and international investment, while ensuring that national policy objectives are achieved and at the same time resulting in an appropriate energy mix.'*[12]

Renewable energy provides a relatively small but increasing portion of energy generation around the world and, to a lesser extent, in South Africa.[13] While having been a consideration in South Africa's energy policy for over a decade,[14] RE has not yet found sufficient support in legislation to become a viable energy source.

The *Constitution of the Republic of South Africa* (*Constitution*)[15] mandates that:

> *'Government establish a national energy policy to ensure that national energy resources are adequately tapped and delivered to cater for the needs of the nation; further, the production and distribution of energy should be sustainable and lead to an improvement in the standard of living of citizens.'*[16]

In this regard, the Government has set out its broader energy policy in its *Energy White Paper*, and has supplemented this with other, more specific documents.[17] Furthermore, political recognition has been given to the fact that climate change is one of the greatest threats to humanity and specifically

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[10] Renewable 2004, International Conference on Renewable Energies, *Business and Industry Position Paper: Energy for Sustainable Development* (2004), at 2.
[11] Energy White Paper (*supra* note 11).
[12] RE White Paper (*supra note* 2), at 11.
[13] Energy White Paper (*supra* note 11), at 79.
[14] *Supra* note 11.
[15] Act 108 of 1997.
[16] *Supra* note 8.
[17] A review of these documents and their relation to renewable energy is contained in chapter 3 of this dissertation, at 10.

to South Africa, having the potential to undo much of the social progress that our society has witnessed in the new democratic era.[18] The economic threat posed to the country's future development and growth in the form of 'carbon-footprint trade barriers'[19] has also received attention at a national level.

South Africa's policy position with regard to RE through the *Energy White Paper* is:

> *'ensuring that an equitable level of national resources is invested in renewable energy technologies, given their potential and compared to investments in other supply options.'*[20]

However, this logic seems not to have been followed, with the low cost of coal meaning that, while acknowledgement has been given to the role of coal in the socio-economic development of South Africa, its harmful environmental affects must receive similar acknowledgment when considering the sustainability of any future growth especially in light of the country's vast social goals of electrification and poverty reduction.[21]

South Africa does not, exist in isolation from the rest of the world, where attitudes may well shift against coal-energy production; therefore, the Government must take cognisance of the necessity of RE generation in the broad international context. This abundant source of energy that allowed South Africa to prosper in the past may well become one of the greatest impediments to its future growth, especially in the context of globalisation and international trade. Although this has been recognised by the Government,[22] almost no real action has been taken.

Energy security is another key issue for South Africa, because of the link between the US dollar and the price of coal and oil,[23] which is vulnerable to a 'greening' of foreign energy sectors and consumer mindset. Fortunately,

[18] *Supra* note 7.
[19] *Ibid*.
[20] RE White Paper (*supra* note 2), at 33.
[21] Energy White Paper (*supra* note 11), at 2-4.
[22] RE White Paper (*supra* note 2), at 29.
[23] RE White Paper (*supra* note 2), at viii.

opportunities for energy trade are increasing, presenting a potential replacement for the coal revenues to be lost in the future. The Government has taken cognisance of this fact through the *Energy White Paper*, stating:

> *'Given increased opportunities for energy trade, particularly within the Southern African region, Government will pursue energy security by encouraging diversity of supply of both sources and primary energy carriers.'*[24]

With these factors in mind, this dissertation will seek to determine whether South Africa has a workable legal framework for the development and deployment of RE generation in South Africa, and will evaluate the country's preparedness for and commitment to this global change. In the South African context RE is defined as energy derived from '*sun, wind, biomass, water (hydro), waves, tides, ocean current, geothermal, and any other natural phenomena which are cyclical and non-depletable*'.[25] Given the underdevelopment of ocean-based technology in South Africa and abroad,[26] the emphasis in this dissertation will be on land-based sources, with the exclusion of nuclear energy and transportation fuels technology. In addition, South Africa has experience in the areas of solar, wind, hydro and biomass energy generation,[27] with most of the existing RE projects in the country falling into one of these categories. Nuclear energy is excluded because of its exclusion from the definition of RE in both South African[28] and United States legislation,[29] and motor vehicle energy since it does not form part of conventional electricity generation. Although it is acknowledged that there has been significant progress in various provinces regarding RE,[30] this

[24] Energy White Paper (*supra* note 11), at 9.
[25] RE White Paper (*supra* note 2), at v.
[26] UK Department of Energy and Climate Change 'What we do.' Available at http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/explained/wave_tidal/wave_tidal.aspx [Accessed 4 October 2009].
[27] Louis van Heerden 'Eskom's Experience in Renewable Energy in South Africa.' Available at http://www.dme.gov.za/pdfs/energy/renewable/Summit%20Presentation/Day%202/Eskom%E2%80%99s%20Experiences%20in%20Renewable%20Energy%20in%20South%20Africa.ppt. [Accessed 14 October 2009].
[28] National Energy Act 34 of 2008, s1.
[29] HR 2454 (2009), s101(a).
[30] These individual developments have been somewhat combined under the Inter-Provincial Energy Forum. For details on these individual and collaborative efforts, see Western Cape

evaluation will be limited to policies and laws promulgated at the national level, considering that these should set the standard/example for what is done at the provincial and municipal level.

The country's goals and ambitions, as contained in its *Energy White Papers*[31] will be compared to its current legislative position to identify potential strengths and weaknesses in existing support mechanisms. This overall position will then be juxtaposed against contemporary foreign legislation, specifically the *American Clean Energy and Security Act of 2009* (*ACES Act*),[32] in an effort to discern relevant and viable best practices. Through this exercise it will be possible to gauge South Africa's position relative to a developed country, as well as to its initial vision for the energy sector. The *ACES Act* was selected for comparison for several reasons. Firstly, as mentioned above, it is the most recent Act addressing climate change in the United States and in the world. As such, it represents the most recent developments on these matters by a developed country, as well as by the second largest GHG emitter in the world.[33] Secondly, the *ACES Act* deals with the fundamental issues analysed in this dissertation,[34] and provides a number of lessons for South Africa, including enforceable RE targets.[35] Finally, the *ACES Act* contains both new provisions and amendments to previous laws on these topics. It amends and highlights numerous earlier legislative provisions,[36] in order to keep apace with this rapidly evolving sector. Although there are many other United States laws of tangential

Sustainable Energy Policy 'Inter-Provincial Energy Forum.' Available at http://www.wcapeenergy.net/Interprovenergyforum.htm [Accessed 14 September 2010].

[31] Energy White Paper (*supra* note 11), at 8 and *RE White Paper (supra* note *2),* at 32-35.

[32] *Supra* note 4.

[33] UNFCCC 'Global map – Annex 1.' Available at http://maps.unfccc.int/di/map/ [Accessed 20 January 2010].

[34] These issues are outlined in chapter 1 of this dissertation, and are expanded upon throughout the rest of the Chapters.

[35] HR 2454 (2009), s101(d)(1)-(2).

[36] Acts covered by and amended include the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.), Energy Independence and Security Act of 2007 (42 U.S.C.), Energy Policy Act of 2005 (42 U.S.C.), Energy Policy Act of 1992 (42 U.S.C.), as well as numerous other social development, financial control and public sector laws.

relevance to RE generation,[37] comparison will be limited to the *ACES Act* due to the constraints of this dissertation.

Themes that are put forward as the building blocks required for the proper implementation of RE generation technology in South Africa have been selected to facilitate this analysis. *Government's commitment to and support of RE and energy efficiency (EE)* is a key issue and will therefore be assessed. *Governance and institutions in the energy sector* in the country will also be reviewed to determine whether the required regulatory infrastructure exists to realise and promote RE generation fully. It is noted that EE and RE are complimentary, both in their application and their goals, and the various means by which they are incentivised and promoted. For example, the implementation of RE technologies in new building developments, both residential and industrial, is acknowledged as a way in which to achieve EE and independence from coal power.[38] Barriers to EE and RE include a lack of economies of scale and higher costs,[39] as well as of information, awareness and political buy-in regarding the benefits thereof.[40] Research has found this to be the case.[41]

South Africa has specifically addressed EE under the *Energy Efficiency Strategy of the Republic of South Africa* (*EE Strategy*), because of it being seen as a 'low-hanging fruit' for energy savings[42] which negates the building of new capacity.[43] Initial government estimates indicate a saving of several power stations' worth of energy supply in the short-term through energy

[37] These include the National Environmental Policy Act of 1969 (42 U.S.C.), Clean Air Act of 1970 (42 U.S.C.), Clean Water Act of 1972 (33 U.S.C.), Toxic Substances Control Act of 1976 (15 U.S.C.), Resource Conservation and Recovery Act of 1976 (42 U.S.C.), Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C.), Shore Protection Act of 1988 (33 U.S.C.), Pollution Prevention Act of 1990 (42 U.S.C.).
[38] Department of Minerals and Energy, *National Energy Efficiency Strategy of the Republic of South Africa – First Review* (2008) at 40.
[39] *Ibid*.
[40] EE Strategy – First Review (*supra* note 38), at 4.
[41] See chapter 6 of this dissertation.
[42] EE Strategy – First Review (*supra* note 38), at 23.
[43] EE Strategy – First Review (*supra* note 38), at 2.

efficiency.[44] The sustainability of government action in regard to the issues of *environmental protection* and *RE as a driver for social development, job creation and sustainable economic growth* will therefore be discussed, as well as whether RE is seen and used as an opportunity instead of an obligation in South Africa.

Finally, South Africa's *use of market-based instruments (MBIs) for the support of RE* will be evaluated and discussed. Addressing the issues of climate change and RE will require extensive use of MBIs, as opposed to a purely 'command and control' approach.

This dissertation will demonstrate that the key elements mentioned above are fundamental to a workable legal framework for RE generation and the shift required from coal to RE generation, while all of them address the opportunities rather than the perceived shortcomings of clean energy.

2. IMPORTANCE OF RENEWABLE ENERGY

> *'Renewable energy offers our planet a chance to reduce carbon emissions, clean the air, and put our civilization on a more sustainable footing. It also offers countries around the world the chance to improve their energy security and spur economic development.'*[45]

With this statement in mind, there is great distortion in the South African energy sector; predominantly as a result of a lack of 'full costing' in energy generation, with little or no consideration of the externalities of coal-fired power generation.[46] Vested interests[47] and the monopoly of Eskom[48] in the industry have perpetuated this distortion through an effective stifling of the

[44] Department of Minerals and Energy, *National Energy Efficiency Strategy of the Republic of South Africa* (2005), at 5.
[45] Renewable 2007 Global Status Report, Renewable Energy Policy Network, 2007, at 2.
[46] RE White Paper (*supra note* 2), at 34.
[47] Earthlife Africa JHB, *Sustainable Energy Briefing 14: Energy Policy review 2007/2008* (2007), at 1.
[48] Department of Minerals and Energy 'Electricity.' Available at http://www.dme.gov.za/energy/electricity.stm [Accessed 14 October 2009].

competitiveness of private and renewable energy, in favour of Eskom's continued use of finite coal and oil resources.[49] Recent years have seen the prices of such finite resources rise steadily, and, at the same time, the costs of most RE options steadily decreasing.[50] It has been noted that the *'economic, social and environmental cost of delaying massive deployment of renewable is higher than the current capital cost differential'*.[51] This sentiment has been echoed around the world, with a growing understanding of the fact that the current constraints on RE are not physical, but rather mental.[52] As a result, as much emphasis has been placed on trying to 'stoke' the political will of governments as on technology development and deployment.[53]

Domestically, RE has the acknowledged potential to provide for future economic and social growth.[54] Besides its environmentally positive attributes, RE by its nature offers solutions to a number of South Africa's unique problems, including off-grid electrification of rural areas, increased job creation through labour intensive manufacturing and development processes, sustainable economic growth, and a global competitive advantage in the light of declining gold and resource outputs.[55]

Internationally, it is important to note that developing countries as a group produce over 40 per cent of existing RE world-wide.[56] With South Africa competing with other developing countries for trade and global influence, the RE sector provides a platform from which South Africa could either increase its global competitive standing, or watch its influence eroded through inaction

[49] Eskom 'New Build Programme' Available at http://www.eskom.co.za/live/content.php?Item_ID=5981 [Accessed 4 January 2010].
[50] U.S. Energy Information Administration 'Annual Oil Market Chronology.' Avalable at http://www.eia.doe.gov/cabs/AOMC/Overview.html [Accessed 14 November 2009].
[51] D Holm et al *Renewable Energy Briefing Paper – Potential of Renewable Energy to contribute to National Electricity Emergency Response and Sustainable Development* (2008), at 1.
[52] UNEP SEFI, *New Energy Finance, Global Trends in Sustainable Energy Investment* (2007), at 21.
[53] This can be seen in the projects of UNEP SEFI, most of which are directed at the public sector. UNEP SEFI 'Creating the Climate for Change.' Available at http://sefi.unep.org/home/ [Accessed 26 January 2010].
[54] RE White Paper (*supra note* 2), at 26.
[55] CJH Hartnady 'South Africa's gold production and reserves' (2009) 105 *South African Journal of Science* 328, at 328-329.
[56] Renewable 2007 Global Status Report (*supra* note 45), at 6.

as others surpass it in this $100 billion sector.[57] Over 65 countries. including the United States[58] and Australia[59] now have RE targets, and have or are enacting supporting legislation and policy.[60] Indeed, even the private financial sector has acknowledged the economic potential of clean energy projects[61] in terms of return on investment, as well as the positive social and environmental consequences that would flow from such.

Aside from the general international agreements and conventions relating to climate change and energy,[62] several conferences have been devoted specifically to RE and its future. In 2004, at the *Renewables 2004, Bonn Convention*,[63] over 140 countries came together to commit to clean energy and carbon reductions.[64] Most recently, the *United Nations Climate Change Conference 2009* (*COP15*) in Copenhagen has highlighted the dangers faced by the world in terms of climate change and GHG emissions. At this conference, the world's nations gathered to discuss and plan for the future dangers and opportunities that climate change will bring, and as a result produced the *Copenhagen Accord.*[65] Under the *Accord*, nations have agreed that '*deep cuts in global emissions are required according to science ... so as to hold the increase in global temperature below 2 degrees Celsius*.'[66] They also agreed that developed nations should assist with and fund initiatives to do so in developing countries.[67] This is to the benefit of South Africa, although it is submitted that South Africa cannot afford to rely solely on international assistance in the tackling of this problem. For their part,

[57] *Ibid*.
[58] *Supra* note 4.
[59] Australian Government: Department of Climate Change 'Conditions for 2020 Targets.' Available at http://www.climatechange.gov.au/en/government/conditions-for-2020-targets.aspx [Accessed 4 January 2010].
[60] *Supra* note 45.
[61] *Supra* note 45.
[62] *Supra* note 3.
[63] *Supra* note 10.
[64] *Ibid*.
[65] Copenhagen Accord 2009 (2009), FCCC/CP/2009/L.7. The Accord is seen by some as a failure, and while it falls short of the strong global commitment required, it does provide some insights in terms of the future global perspective and action on emissions reduction. See Greenpeace, *Interim Copenhagen Outcome Assessment 14.45 CET* (2009), at 7 and B Müller, 'Copenhagen 2009 Failure or final wake-up call for our leaders' (2010) *Oxford Institute for Energy Studies* EV 49 at 22.
[66] FCCC/CP/2009/L.7, at 2.
[67] FCCC/CP/2009/L.7, at 3.

developing countries have committed to implementing mitigation measures, for which developed countries have committed $30 billion in funding for the period of 2010-12, with $100 billion being made available by 2020.[68]

Despite these new commitments and additional funds, the *Clean Development Mechanism* (*CDM*) seems to be in limbo, with the renewal of the *Kyoto Protocol* for post-2012[69] not being considered. While it is likely that the *CDM* will be extended in some form post-2012, this issue poses a potential danger for South Africa's RE sector if it is to be based solely on this funding mechanism. The *CDM* will certainly lapse in the future, as the world integrates its carbon markets. If South Africa chooses to forge ahead with coal and nuclear power without fully investigating and implementing a carbon market mechanism based on RE, it is likely to be left behind in this global commodity market, to the detriment of the short-term growth and development it has made utilising coal power.

With the above international acknowledgment of the major impact of fossil fuels on the environment,[70] RE is increasingly seen as a vital mechanism in combating climate change, and with other countries taking measures to harness renewable energy sources, South Africa would be amiss not to follow suit.

3. UNDERSTANDING THE DOMESTIC POLICY CONTEXT

The following analysis of the domestic policy context will be broken down in terms of the themes outlined in chapter one of this dissertation. These themes are submitted to be vital to the development of a workable legal framework for RE in South Africa, and include: Government's commitment to RE and EE; governance and institutions; environmental protection and RE as a driver for social development, job creation and sustainable economic

[68] FCCC/CP/2009/L.7, at 8.
[69] 1997 (1998) 37 ILM 22, Art 12 provides for the CDM until 2012, after which the Protocol ceases to have effect according to Art 3. The follow-up Copenhagen Accord does not make provision for the continuance of the CDM.
[70] *Supra* note 2.

growth; public participation, education and access to information; and market-based instruments (MBIs).

3.1. COMMITMENT TO RENEWABLE ENERGY

There are numerous domestic policies that affirm the Government's commitment to RE and EE. These policies have been promulgated by a number of energy, fiscal and environmental authorities; thus, the analyses in this dissertation will follow a similar division, under the themes mentioned above.

The energy policy of South Africa is largely contained in the *Energy White Paper*[71] and the *White Paper on the Renewable Energy Policy of the Republic of South Africa* (*RE White Paper*).[72] The position of the Government is made clear in these documents through various goals, objectives and principles which are based on the local, international and historical context of the country,[73] and put into practice through various plans,[74] strategies,[75] and acts.[76] Together, these documents provide a glimpse into the future of energy policy and RE in South Africa.

With the political changes of 1994, the new South African Government dramatically redirected its focus with regard to its various policies, including that on energy.[77] As a result, the *1986 White Paper on Energy Policy*[78] was replaced with the *Energy White Paper* through a new approach to policy formulation that was shaped by the Government's fresh commitments to transparency, accountability and integration.[79] Despite this approach,

[71] *Supra* note 11.
[72] RE White Paper (*supra* note 2).
[73] *Supra* note 31.
[74] Department of Minerals and Energy, *Energy Security Master Plan – Electricity 2007-2025* (2007).
[75] EE Strategy – First Review (*supra* note 38).
[76] *Supra* note 28.
[77] South African Government Information 'South African Energy Policy Discussion Document.' Available at http://www.info.gov.za/otherdocs/1995/energy.htm [Accessed 18 September 2009].
[78] Department of Minerals and Energy, *White Paper on the Energy Policy of the Republic of South Africa* (1986).
[79] Energy White Paper (*supra* note 11), at 17.

implementation of this new vision has been a major challenge, even though the *Energy White Paper* was adopted over a decade ago.[80] The principles of transparency and accountability have also not been adhered to or integrated into the policy framework document.[81]

The *Energy White Paper* promotes five energy objectives for the country, as well as the short and medium-term priorities necessary to realise these objectives,[82] which relate not only to the electricity sector, but also specifically to the energy sub-sectors of nuclear energy and transportation fuels.[83] Despite this attempt at comprehensive cover, the *Energy White Paper* does not reflect the current changes in the world economy and the related impact on the energy sector,[84] especially with regard to the move towards full costing of externalities and the long-term sustainability of the sector. The *Energy White Paper* also forms the basis for EE in South Africa, by providing a mandate to the Department of Energy (DE) to develop the *EE Strategy*.[85]

Following the *Energy White Paper*, the *RE White Paper*, essentially an extension of its parent document,[86] was published in 2003.[87] Developed in the same context,[88] the *RE White Paper* lays out the DE's position on RE, and similarly contains five strategic goals with a number of related objectives and deliverables. These goals and objectives are phrased broadly, with a more precise *RE Strategy* set to follow,[89] although this is yet to be published. The content of the *RE White Paper* is largely inadequate through stated deliverables often being investigatory rather than actionable and enforceable.[90] The foundation of the *RE White Paper* is a non-binding

[80] Earthlife Africa JHB, *Sustainable Energy Briefing 8: White Paper on the Energy Policy of South Africa* (1998), at 1.
[81] Energy White Paper (*supra* note 11), at 5.
[82] *Supra* note 11.
[83] Energy White Paper (*supra* note 11), at 12-13.
[84] SouthAfrica.info 'South Africa joins the global recession.' Available at http://www.southafrica.info/news/business/33972.htm [Accessed 4 January 2010].
[85] Energy White Paper (*supra* note 11), at 84.
[86] *Supra* note 11.
[87] *Supra* note 72.
[88] RE White Paper (*supra* note 2), at 6.
[89] RE White Paper (*supra* note 2), at xiii.
[90] *Supra* note 46.

10000GW RE target,[91] which is to be achieved through the abovementioned goals. Only 10 per cent of this goal has been achieved to date,[92] while the DE is alluding to the future lowering of this target.[93] Apart from its specific goals, a number of cross-cutting issues which reflect the general energy issues stated in the *Energy White Paper*[94] are considered under the *RE White Paper.*[95] Many of these cross-cutting issues, including the *EE Strategy,*[96] are further dealt with under more specific planning documents; each with varying degrees of success and implementation.

In 2008, a call for review of the *RE White Paper* was made, as per its standing four year review cycle.[97] While no new draft is available, the review paper has led commentators to criticise the potential lowering of the RE target due to the Government being unable to reach the initial goal within its self-imposed deadline.[98]

If the *Energy White Papers* are seen as the roadmap of the South African energy sector, the planning and strategy documents below can be seen as the vehicles for their implementation, by providing greater detail on the *White Papers'* goals.[99] These subordinate documents are interrelated, both with each other and with the *White Papers*,[100] with duplication in the planning process being a concern. The long-term technical structure of the South African energy sector is contained in the *Energy Security Master Plan* (*Master Plan*),[101] which is essentially a model for the development of the

[91] *Supra* note 2.
[92] Engineering News 'Industry players sceptical about South Africa's 2013 renewable target.' Available at http://www.engineeringnews.co.za/article/industry-players-sceptical-about-sas-2013-renewable-target-2009-08-18 [Accessed 14 December 2009].
[93] TimesLIVE 'SA will not raise renewable energy goal: Minister.' Available at http://www.timeslive.co.za/business/article187591.ece [Accessed 11 November 2009].
[94] *Supra* note 11.
[95] See RE White Paper (*supra* note 2), at 35-40. These include integrated energy planning, energy efficiency, the environment and health, the country's continued energisation programme, international trade and relations; and the empowerment of previously disadvantaged persons.
[96] RE White Paper (*supra* note 2), at 36.
[97] Development Bank of Southern Africa, *Terms of Reference – Revision of the Renewable Energy White Paper and Target* (2009).
[98] *Supra* note 92.
[99] *Supra* note 56.
[100] Energy White Paper (*supra* note 11), and *RE White Paper (supra* note *2)*.
[101] *Supra* note 74.

energy sector over a 20 year period, developed in order to ensure that economic and social growth in South Africa is not hampered by an electricity sector that is not able to keep up with such growth.[102] A number of specific sub-plans, including the *Integrated Energy Plan* (*IEP*)[103] and the *New Build Programme*,[104] are also incorporated under the *Master* Plan, although the provisions of these documents are sometimes at odds. For example, the *IEP* favours the least cost approach and excludes full-costing and RE development from its modelling process,[105] despite the goals included in the *Master Plan*.[106]

The goals of the *Master Plan* are similar to those of the *Energy White Paper*,[107] although several of these goals are not represented in the assumptions and methodology behind the *Master Plan*, and it thus seems that a 'business as usual' approach to energy planning continues to be followed. For instance, the *Master Plan* is based on the assumption that the cost of coal-based electricity generation in South Africa will continue to remain low.[108] This flawed assumption necessitates updating most of these documents, as it has a negative impact on the inclusion of RE in the long-term planning process and is in direct contradiction to the full-costing rationale espoused by several South African planning documents.[109]

The *Master Plan* concludes with a number of recommendations based on policy gaps that were identified,[110] including advocating an increased number of transmission lines[111] and the regulation of electricity distribution infrastructure investments.[112] The recommendations are followed by

[102] Master Plan (*supra* note 74), at 6.
[103] Department of Minerals and Energy, *Integrated Energy Plan for the Republic of South Africa* (2003).
[104] *Supra* note 49.
[105] IEP1 (*supra* note 103), at 11.
[106] See Master Plan (*supra* note 74), at 8. These include diversifying energy generation, reducing overall energy usage, meeting RE targets, ensuring security of supply; and clarifying certain policy issues with regards to the evolution of the sector.
[107] *Supra* note 106.
[108] Master Plan (*supra* note 74), at 14.
[109] RE White Paper (*supra* note 2), at 48.
[110] Master Plan (*supra* note 74), at 58.
[111] Master Plan (*supra* note 74), at 59.
[112] *Ibid*.

Annexure 1 of the *Master Plan*,[113] which contains a number of policy statements that are to be adopted in order to ensure the success of the *Master Plan*. These include developing an electricity price path, considering importing and exporting electricity, leveraging private sector participation in electricity generation, and attracting energy intensive investments as a strategy for development.[114] While these considerations are vital to a workable RE policy framework in South Africa, the *Master Plan*, as the overarching energy security plan of the country, fails to take into account a number of other factors that are equally important to increased energy security and the future development of the energy sector in line with current international best practices. For instance, despite being an attempt at long-term planning, the *Master Plan* makes no provision for future environmental considerations within the economy, and within the energy sector specifically. Similarly, no reference is made to 'full-costing', with the terms 'lowest-cost' and 'coal generation' being used together throughout.[115] Furthermore, sustainable development, sectoral and departmental integration, and the role of nuclear power are also some of the areas which are not covered by the *Master Plan* or are covered contradictory. For example, nuclear energy is referred to as both '*not considered*'[116] and then later as a potential '*best fit*' in terms of environmental health and safety.[117] Such inconsistencies appear throughout the *Master Plan*, and can also be found in the subordinate planning documents to follow.

Similar to the *Master Plan*, the *IEP*[118] was published according to the mandate provided by the *Energy White Paper*.[119] South Africa published its first *IEP* (*IEP1*) in 2003.[120] Integrated energy planning involves estimating the total future energy demand of the country, and then determining the appropriate mix of energy sources required to meet such needs in the most

[113] Master Plan (*supra* note 74), Annexure 1.
[114] Master Plan (*supra* note 74), at 61.
[115] *Supra* note 108.
[116] Master Plan (*supra* note 74), at 9.
[117] Master Plan (*supra* note 74), at 56.
[118] *Supra* note 103.
[119] Energy White Paper (*supra* note 11), at 14.
[120] *Supra* note 103.

efficient and socially beneficial manner.[121] In this way, all long- and short-term options, costs and benefits are considered in a process that goes beyond traditional economic energy planning considerations.

Familiar criticism of the *IEP1* relates to its 'business as usual' approach to planning.[122] However, the *IEP* is a document based on ongoing planning and development, and therefore a *Scenario Document*, which seeks to take into account in the energy planning process a number of drivers not contained in the *IEP1*,[123] has been published for the future *IEP2*.[124] Three potential energy scenarios: '*high coal'*, '*low coal'* and '*no coal'* energy generation are provided for under the *Scenario Document*,[125] with new drivers to be considered including social development factors such as job creation and poverty alleviation; as well as RE targets, international pressures and funding mechanisms for low-carbon energy generation.[126] This would improve on the position of the *IEP1*,[127] although the *IEP2* has yet to be developed. Furthermore, the review periods of the *IEP* have not been adhered to,[128] raising familiar questions around the full commitment of the DE to the transformation of the energy sector, as well as around its support for RE generation as a viable source of long-term economic growth.

Similar in content to the *IEP*, the *National Integrated Resource Plan* (*NIRP*) is an independent information document mandated by the *Energy White Paper*.[129] Although it is not subordinate to the *Master Plan*, the *NIRP* provides similar information to the *IEP*, but is published by the National

[121] Earthlife Africa JHB, *Sustainable Energy Briefing 4: Integrated Energy Planning* (2005), at 1.
[122] See Earthlife Sustainable Energy Briefing 4 (*supra* note 121), at 3. Commentators have highlighted several key short-comings, including a failure to consider the impact of legislation on the expansion of RE; a failure to account for the external environmental costs of South Africa's coal generated electricity; and the failure to fully weigh up the trade-off between least cost electricity and social development and employment creation. This is despite these being espoused by the Government as major policy priorities for South Africa and its energy sector. See Energy White Paper (*supra* note 11), at 5.
[123] Department of Minerals and Energy, *Draft Integrated Energy Plan 2 Scenario Document* (2005), at 3.
[124] Draft IEP2 (*supra* note 123).
[125] Draft IEP2 (*supra* note 123), at 4.
[126] *Supra* note 123.
[127] *Supra* note 103.
[128] *Supra* note 122.
[129] Energy White Paper (*supra* note 11), at 29.

Energy Regulator of South Africa (*NERSA*) rather than the DE. The last publicly available *NIRP* (*NIRP2*) was published in 2005,[130] while the latest version (*NIRP3*), published at the end of 2009,[131] has not been placed into the public domain. When announcing the publication of the *NIRP3*, the DE also announced that it would be removing the electricity monopoly from Eskom through the direct purchasing of electricity by the Government from Independent Power Producers (IPPs).[132] This dual announcement can be seen as an indication of the importance and relevance of this document to various stakeholders, including the Government.

Demand Side Management (DSM) plays a fundamental role in electricity planning,[133] and as such the *Master Plan* is strongly reliant on EE. Both the *EE Strategy* and the *Master Plan* seek to reduce energy demand through financial and others measures, including the strategic use of RE.[134] In fact, the *Master Plan* can be seen as a practical implementation of several of the *EE Strategy's* visions.[135]

The above documents model the future of the energy sector, based on numerous inputs. EE is one such input, and as such the first *EE Strategy* was published in March 2005,[136] with a provision that it would be reviewed every three years.[137] Again, the *EE Strategy* is a result of the mandate contained in the *Energy White Paper*, which recognises and promotes EE standards, appliance labelling and awareness-raising in South Africa.[138] The vision contained within the *EE Strategy* is:

> *'To encourage sustainable energy sector development and energy use through efficient practices, thereby minimising the undesirable*

[130] National Energy Regulator of South Africa, *National Integrated Resource Plan 2* (2005).
[131] National Energy Regulator of South Africa, *National Integrated Resource Plan 3* (2009).
[132] *Supra* note 129.
[133] EE Strategy – First Review (*supra* note 38), at 21.
[134] *Supra* note 42.
[135] *Supra* note 23.
[136] *Supra* note 75.
[137] EE Strategy (*supra* note 44), at 27.
[138] Energy White Paper (*supra* note 11), at 15.

> *impacts of energy usage upon health and the environment, and contributing towards secure and affordable energy for all.'*[139]

In order to achieve this vision, eight goals[140] are set out, grouped in terms of the 'pillars' of sustainable development: environmental, social and economic sustainability.[141] These considerations are equally pertinent to RE in South Africa, and are similar to the goals of the *RE White Paper*.[142] Any future *RE Strategy*[143] should, and is likely to be modelled along the lines of the *EE Strategy*; which addresses energy efficiency in a number of ways, including timeframes, costs[144] and mechanisms required for the implementation of its targets.[145]

The Government has established targets for EE on a phased and differentiated basis,[146] based on the energy demand and environmental impact of the country's various economic sectors.[147] The overall energy demand reduction target for South Africa has been set at 12 per cent by 2015,[148] with sub-sector targets ranging from one per cent[149] to 20 per cent.[150] In conjunction with these targets and goals, a monitoring and measurement system is to be introduced under the *National Energy Act of 2008* (*NE Act*).[151]

The goals, objectives and mechanisms of the *RE White Paper*[152] and the *EE Strategy* are complimentary and reinforce their aims, with the *EE Strategy*

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[139] *Supra* note 40.
[140] See EE Strategy – First Review (*supra* note 38), at 5. These goals include improving the health of the nation, job creation, energy poverty alleviation, environmental pollution reduction, carbon dioxide emissions reduction, industrial competitiveness improvement, energy security enhancement, and finally the reduction of the necessity for additional power generation capacity.
[141] EE Strategy – First Review (*supra* note 38), at 5.
[142] RE White Paper (*supra note* 2), at 32.
[143] *Supra* note 89.
[144] EE Strategy – First Review (*supra* note 38), at 3.
[145] EE Strategy – First Review (*supra* note 38), at 20.
[146] EE Strategy – First Review (*supra* note 38), at 12.
[147] *Supra* note 138.
[148] *Supra* note 146.
[149] *Supra* note 138.
[150] EE Strategy – First Review (*supra* note 38), at 17.
[151] EE Strategy – First Review (*supra* note 38), at 19.
[152] *Supra* note 72.

providing a number of opportunities for RE research in an effort to reduce conventional energy demand.[153] Most importantly, these aims can only be achieved through inclusive policy formation, and by fully considering the environmental and societal health benefits achievable through the effective implementation of EE and RE targets. However, while the *EE Strategy* goals are important, they suffer a similar fate to that of the *RE White Paper* in that they are non-binding and there has been little real progress in their realisation.[154] However, while no RE targets have been laid down in South Africa, the energy policies of the country have progressed towards the sustainability of the sector and promotion of RE generation. The various overlaps between the energy policy documents above highlight a seemingly strong commitment by the Government to the transformation of the sector, although no real action in this regard has been taken. The EE targets provide both hope and doubt in this regard: hope in that they provide precedent for future RE targets, and doubt in terms of their non-fulfilment.

The commitment of the South African fiscal authorities to RE generation is set out in a number of documents, including the *Draft Policy Paper on a Framework for Considering Market-based Instruments to Support Environmental Fiscal Reform in South Africa* (*MBI Paper*).[155] While not focused on the electricity sector, the *MBI Paper* has set the tone for current and future environmental fiscal reform, as can be seen in the *National Budgets*[156] and *Strategic Plans* (*NTSP*)[157] of the National Treasury for the past several years. These have led to numerous legislative reforms and developments,[158] as well as a number of very relevant regulatory

[153] EE Strategy – First Review (*supra* note 38), at 1.
[154] *Supra* note 92.
[155] Department: National Treasury, *Draft Policy Paper: A Framework for Considering Market-based Instruments to Support Environmental Fiscal Reform in South Africa* (2006).
[156] Department: National Treasury, *National Budget*s, 2007 – 2009.
[157] Department: National Treasury, *Strategic Plans,* 2007/10 – 2009/12.
[158] Found in the Taxation Laws Amendment Acts and Revenue Law Amendment Acts, as discussed in chapter 4 of this dissertation, at 70.

developments; most notably the *Renewable Energy Feed-in Tariffs* (*REFIT*)[159] of NERSA.

Growing support for environmental initiatives can be found in the *National Budgets* of recent years, with a total of R5.6 billion being allocated to environmental protection in 2009.[160] This represents a significant increase on past allocations,[161] and bodes well for RE in the future. Apart from this general support, both the *National Budget* and the *Taxation Laws Amendment Acts (TLA Acts)*[162] contain certain specific provisions regarding the energy industry, including tax and depreciation incentives. The National Treasury seeks to link environmental and economic sustainability through the *National Budget* by noting that:

> *'Over the long-term environmental considerations will affect the sustainability of growth. Government will promote efficient use of energy and water resources... to mitigate the effects of climate change. Prices that reflect economic cost and well-structured environmental taxes should provide incentives for efficiency improvements and new investment.'*[163]

In this light, the *National Budget* will have a direct effect on the energy industry through a number of key developments[164] which clearly illustrate the commitment and importance which the National Treasury places on RE generation, with more developments set to come.[165]

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[159] National Energy Regulator of South Africa, *South African RE Feed-in Tariff (REFIT) Regulatory Guidelines* (2009).
[160] Department: National Treasury, *2009 Budget Highlights* (2009), at 2.
[161] *Ibid*.
[162] Act 17 of 2009.
[163] Department: National Treasury, *2009 National Budget* (2009), at 25.
[164] These include an energy efficiency incentive (Act 17 of 2009, s27(1)); a CDM tax incentive (Act 17 of 2009, s28(1)); increased funding for the *Working for Energy Programme* SANERI 'Working for Energy Programme.' Available at http://www.saneri.org.za/working_for_energy.html [Accessed 4 January 2009]; climate change research (2009 National Budget (*supra* note 163), at 25); an electricity levy (South African Revenue Service, *Environmental Levy Account for Electricity: External Manual* (2009), at 3).
[165] Department: National Treasury, *Strategic Plan (Update) 2009/12* (2009), at 10.

While South Africa does not yet have a climate change policy, there are a number of policy documents which would form a basis for a future policy, and which have a bearing on the energy sector through 'environmental-energy' considerations. Setting the tone for the Government's commitment to a healthier and more sustainable environment is the *White Paper on Environmental Management Policy for South Africa* (*Environmental White Paper*).[166] This *Environmental White Paper* has largely been concretised in the *National Environmental Management Act* (*NEMA*),[167] and has thus paved the way for strong considerations of sustainable development in South Africa.[168] While the *Environmental White Paper* speaks directly to the environmental policy of the Government, the *Long-term Mitigation Scenarios* (*LTMS*) of 2008[169] is arguably the most important environmental policy document with regards to RE to date. The *LTMS* is a scenario document which forms part of South Africa's larger climate change adaptation and mitigation policy initiative.[170] In 2008 the *LTMS* process was concluded and endorsed by Cabinet.[171] The *LTMS* has been hailed as an achievement because of its multi-stakeholder process, and because of its endorsement by all government departments involved, including the then Department of Minerals and Energy (DME).[172] However, the process has also been criticised for not being truly inclusive of the greater South African society, and of rather being skewed in favour of current dominant economic players[173] through its many questionable assumptions.[174]

The *LTMS* process culminated in the plotting of three potential scenarios for South Africa's emissions and economic future: '*growth without constraints'*,

[166] Department of Environmental Affairs and Tourism, *White Paper on Environmental Management Policy for South Africa* (1998).
[167] Act 107 of 1998.
[168] Act 107 of 1998, s4(a).
[169] Department of Environmental Affairs and Tourism, *Long Term Mitigation Scenarios* (2007).
[170] David Hallowes, *A critical appraisal of the LTMS* (2008), at 3.
[171] Hallowes (*supra* note 170), at 1.
[172] *Ibid*.
[173] *Ibid*.
[174] *Ibid*.

'*current development path'* and '*required by science'*;[175] which are not dissimilar to those contained in the *IEP2 Scenario Document*.[176] In terms of these scenarios,[177] the *LTMS* proposes six policy directions, [178] all of which impact on RE development. While most of these initiatives focus on emissions reduction and energy efficiency,[179] '*Theme 3: Implementing the "Business Unusual" Call for Action*"'[180] calls for more ambitious energy diversity programmes and a RE target of 27 per cent by 2030 and 50 per cent by 2050.[181] This is in stark contrast to the current targets set out in the *RE White Paper*.[182]

Clarity on the challenges facing RE in South Africa is not fully addressed under the above documents. While they do discuss RE, many of them fail to internalise the potential benefits fully. As a result, the idea of reduced carbon intensity in the South African energy sector seems unfathomable to the DE, and instead of providing true long-term guidance, these documents create the perception that coal power is the only true low cost option for energy, and that large-scale RE does not fit the country's priorities. This could not be further from the truth. Thus, while it would appear that RE is regularly factored into decisions relating to South Africa's energy mix, the true level of clarity and commitment contained in these documents can be summed up by looking at the implementation of their goals and objectives. With less than half of the Government's RE targets having been met[183] or translated into legislation, it would appear that government commitment is far from convinced. Until real buy-in is achieved, the factors[184] mentioned below are unlikely to see real progress, due to a lack of legislative and executive action.

[175] Department of Environmental Affairs and Tourism, *Climate Change Response Policy Presentation* (2008), at 3.
[176] *Supra* note 125.
[177] DEAT Climate Change Policy Presentation (*supra* note 175), at 4.
[178] *Ibid*.
[179] Department of Environmental Affairs and Tourism, *Long Term Mitigation Scenarios: Energy Emissions Input Document* (2007), at 31.
[180] *Supra* note 177.
[181] RE White Paper (*supra* note 2), at 1.
[182] *Ibid*.
[183] *Supra* note 92.
[184] These factors are discussed under sections 3.2 – 3.4 of this dissertation.

3.2. ENVIRONMENT PROTECTION

Several domestic policy documents affirm the Government's vision of environmental protection and sustainability. As above, these policies have been promulgated by energy, fiscal and environmental authorities; and the analysis in this section has been divided under the themes mentioned above. The basis for RE generation in South Africa at present is emissions reduction and sustainable development.[185] This is as a result of political recognition of the fact that climate change poses one of the greatest threats to South African society, having the potential to undo much of the social progress that our society has witnessed in the new democratic era.[186] The economic threat posed to the country's future development and growth in the form of 'carbon-footprint trade barriers',[187] has also received attention at a national level.

Thus, while government commitment is imperative to the implementation of RE initiatives, these RE initiatives are themselves essential because of the harmful environmental effects of fossil fuel-based energy generation, brought about by the current energy sector in South Africa and throughout the world. Therefore, as the foundation of South African energy policy, it is vital for the future of the sector that the *Energy White Paper* contain environmental considerations. To this end, the *Energy White Paper* does state that the environment will play an ever more important role in future energy policy development.[188] The *Energy White Paper* further indicates that '*Government will promote access to basic energy services for poor households, in order to ameliorate the negative health impacts arising from the use of certain fuels*',[189] and that '*Government will work towards the establishment and acceptance of broad national targets for the reduction of energy-related emissions that are harmful to the environment*.'[190]

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[185] *Supra* note 181.
[186] *Supra* note 7.
[187] *Supra* note 7.
[188] Energy White Paper (*supra* note 11), at 16.
[189] *Supra* note 24.
[190] See Energy White Paper (*supra* note 11), at 9 and 93, as well as Act 107 of 1998, s2. In this regard the Government has taken primary responsibility for monitoring the impacts of energy pollution and resource utilisation on the environment. This is questionable in that it shifts the onus from the polluter to the Government, thus reducing accountability on the

The health and environmental impacts of coal-based energy production are growing concerns around the globe, with countries coming together in acknowledgment of these issues, agreeing on such conventions as the *UNFCCC*[191] and *Kyoto Protocol*.[192] While emission targets are not mandatory for developing countries under the *UNFCCC*,[193] certain benefits could be realised through early adaptation and mitigation measures, including financial support for RE through mechanisms such as the CDM.[194] This advantage has been largely ignored by the Government,[195] in complete disregard of the obligations that are likely to be placed on developing countries in the future in terms of international trade.[196]

The *Energy White Paper* seeks the adoption of *NEMA*[197] by the energy sector through a direct reference and a statement to the effect that the two documents must be read in conjunction with each other.[198] This brings an element of environmental protection into the energy sector. The *RE White Paper* follows the *Energy White Paper* in addressing the issue of environmental protection through the promotion of full costing and the consideration of full externalities in energy developments.[199] Sustainable development is a strong theme in the *RE White Paper*, and is stated to be one of the crucial elements for successful implementation of RE in South Africa.[200]

Besides these specific references to environmental considerations and protection, it is submitted that a primary basis for the *Energy White Papers* is

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sector and Eskom and undermining the principles of NEMA, South Africa's framework environmental law.

[191] *Supra* note 1.
[192] *Supra* note 3.
[193] 1992 (1994) 31 ILM 849, Art 4.
[194] UNFCCC 'Clean Development Mechanism.' Available at http://cdm.unfccc.int/index.html [Accessed 4 January 2010].
[195] Department: National Treasury, *Explanatory Memorandum on the Taxation Laws Amendment Bill, 2009* (2009), at 29.
[196] *Supra* note 7.
[197] *Supra* note 167.
[198] Energy White Paper (*supra* note 11), at 93.
[199] RE White Paper (*supra* note 2), at 27.
[200] *Supra* note 54.

environmental protection.[201] This emphasis on environmental protection has been carried through to the various energy planning documents, including the *Master Plan*.[202] An important goal in the *Master Plan* is the creation of a simplified environmental impact assessment (EIA) strategy for the energy sector.[203] If done properly, this could facilitate a more efficient decision-making process. Conversely, it could be used as a process of justification for conventional power infrastructure development, and thus negatively affect RE generation in South Africa. There are a number of other environmental considerations under the *Master Plan* for energy infrastructure development, including the future availability of land and water,[204] and the potential that the CDM holds for future expansion funding.[205] Carbon credits are to feature in all future investment decisions.[206] This can be seen as a pragmatic approach to environmental protection that seeks to address issues of funding and resource availability – key advantages that RE has over conventional coal power.

Similarly, the entire premise behind the *EE Strategy* is energy savings and environmental sustainability through greater efficiency.[207] To this end, the *EE Strategy* contains a number of provisions relating to sustainable development,[208] very much in line with the *Energy White Paper*. As with the *RE White Paper*, the successful implementation of the *EE Strategy* should translate directly into environmental protection and sustainability, through less usage of electricity, as well as the generation of such through means other than conventional coal power.

The National Treasury is playing an increasingly prominent role in environmental protection in an effort to achieve sustainability,[209] and has developed several policies and plans to implement this vision. These include

[201] Energy White Paper (*supra* note 11), at 6 and RE White Paper (*supra* note 2), at x.
[202] Master Plan (*supra* note 74), at 38.
[203] *Ibid*.
[204] Master Plan (*supra* note 74), at 10.
[205] Master Plan (*supra* note 74), at 41.
[206] *Ibid*.
[207] *Supra* note 43.
[208] *Supra* note 38.
[209] Department: National Treasury, *Strategic Plan 2008/2011* (2008), at 1.

the *MBI Paper*, which was published in an effort to outline the future role of MBIs in promoting environmental protection and sustainable development.[210] The *MBI Paper* deals with many facets of society, including the electricity sector,[211] and contains detailed provisions on the evaluation[212] and criteria[213] of MBIs. The *MBI Paper* notes that initial environmental MBIs were developed with the primary goal of raising revenue and not pure environment protection.[214] This is set to change, as the environment becomes an ever more important aspect of government policy; and as the *MBI Paper* shifts focuses from revenue-based instruments to expense-based options.[215] It should be noted that a number of positive developments have since taken place, both in terms of environmental protection[216] and support for RE generation. These include several tax incentives, as well as several new fiscal burdens on activities of products that affect the environment negatively.[217]

Building on this overarching environmental vision, the *NTSP*[218] deals directly with the issues of emissions reduction and RE,[219] and promises an investigation into the future options of carbon pricing.[220] From this investigation, a draft policy paper on carbon pricing is to be published in 2010; which will be followed a year later by appropriate legislation, and then by a comprehensive carbon mitigation and adaptation policy.[221] Another welcome development under the *NTSP* is the planned support for energy

[210] MBI Paper (*supra* note 155), at 38.
[211] MBI Paper (*supra* note 155), at 36.
[212] MBI Paper (*supra* note 155), at 53.
[213] MBI Paper (*supra* note 155), at 56.
[214] MBI Paper (*supra* note 155), at iii.
[215] MBI Paper (*supra* note 155), at i.
[216] MBI Paper (*supra* note 155), at 96.
[217] These market-based instruments are discussed in detail in chapter 4 of this dissertation, at 70.
[218] *Supra* note 157.
[219] Department: National Treasury, *Strategic Plan 2009/2012* (2009), at 34.
[220] *Ibid*.
[221] *Ibid*. It is submitted that while the National Treasury refers to two potential carbon pricing options, it seems already to have chosen the more regulatory carbon tax, with no evidence of proper research into international developments in carbon trading. This choice is based on the rationale that a carbon tax would be more cost effective than an emissions trading scheme (ETS). See Minister of Finance, *Budget Speech 2009* (2009), at 19; CNNWorld 'Comment: Salvation lies in carbon trading.' Available at http://www.cnn.com/2009/WORLD/europe/12/02/chichilnisky.climate.comment/index.html [Accessed 4 January 2010]; and MBI Paper (*supra* note 155), at 52.

security through fiscal reform,[222] which, by necessity, covers such options as RE, given the finite nature of the country's current energy fuels. This has, and will continue to, influence the *National Budget*, as seen in 2009,[223] which seeks to link the environment and economy through long-term, environmental considerations for sustainable of growth:

> *'Government will promote efficient use of energy and water resources... to mitigate the effects of climate change. Prices that reflect economic cost and well-structured environmental taxes should provide incentives for efficiency improvements and new investment.'*[224]

From the above, the National Treasury can be seen to be making a noteworthy impact on the energy sector from an environmental perspective. This is vital for the support of the RE initiatives of the DE. However, as a single government department, it is likely to be heavily influenced by politics, which can already be seen in a preference for a carbon tax over the more free market, incentivised approach of emissions trading.[225] As a state with a very strong socialist undertone,[226] the Government seems loath to trust the private sector to deliver the required emissions reduction and energy diversification, instead wishing to maintain tight control over these processes through regulatory and administrative measures. This despite the immense potential for public-private partnerships in terms of environmental and social upliftment.[227]

While South Africa currently lacks a comprehensive climate change policy, the Government is in the early stages of developing one. A number of important steps have already been taken in a process spanning over a decade. The *Environmental White Paper* was published in 1997 and establishes the overarching policy framework for environmental management

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[222] *Ibid*.
[223] *Supra* note 163.
[224] NTSP 2009/2012 (*supra* note 219), at 25.
[225] Minister of Finance, *Budget Speech 2009* (2009), at 19.
[226] Energy White Paper (*supra* note 11), at 4.
[227] *Supra* note 92.

in South Africa.[228] Its sets out the visions, objectives and principles of future environmental management in the country, and is the forerunner for *NEMA*,[229] which has gone far to concretise much of the *Environmental White Paper*. Based on the vision of *'society in harmony with its environment'*,[230] the *Environmental White Paper* seeks to take an integrated approach to sustainable development in order to address many issues, including '*the integration of economic development, social justice and environmental sustainability; the sustainable use of social, cultural and natural resources; and public participation in environmental justice.*'[231] These issues are closely related to the question of energy generation in South Africa, given the high level of environmental degradation caused by mining and burning of coal. As the *Environmental White Paper* seeks to integrate all elements of society under the concept of sustainable development, full-costing is by implication imposed on energy generation, to the benefit of RE. Added to this are the *Environmental White Paper's* principles,[232] all of which impact on the energy sector to some extent. These include increased levels of accountability and governance in terms of the environment,[233] as well as the abovementioned increase in coordination and integration.[234] In order to implement the *Environmental White Paper*, a *National Environmental Strategy and Action Plan* was to be developed.[235] This *Action Plan* has not yet been developed, which may at least partly explain the disconnection between the environmental and 'economic development' authorities.[236]

Other provisions of the *Environmental White Paper* which affect energy generation in South Africa include the call for a holistic and integrated approach to planning on the issues of development and land allocation,[237] as well as the acknowledgement of the potential value of foreign and private

[228] Environmental White Paper (*supra* note 166), at 13.
[229] *Supra* note 167.
[230] *Supra* note 228.
[231] *Ibid.*
[232] Environmental White Paper (*supra* note 166), at 20.
[233] *Ibid*.
[234] Environmental White Paper (*supra* note 166), at 21.
[235] Environmental White Paper (*supra* note 166), at 5.
[236] Environmental White Paper (*supra* note 166), at 19.
[237] Environmental White Paper (*supra* note 166), at 16.

sector investment.[238] However, the *Environmental White Paper* also holds that the environment cannot be sacrificed for investment and development, as the long-term costs outweigh the short-term benefits.[239]

In conclusion, the *Environmental White Paper* is an important step towards sustainable development in South Africa, based on its principles seeking to bridge the gap between economic development, social upliftment and environmental conservation and sustainability. While it served a vital role in governmental planning and legislative development, most of its principles and objectives have been captured under *NEMA*,[240] and as such the *Environmental White Paper* is overshadowed by this statute, which has the benefit of being enforceable and concrete. Therefore, greater detail on these issues is given below under *NEMA*.[241]

A more relevant environmental policy document than the *Environmental White Paper* is the *LTMS*, which is a the precursor to the *2009 National Climate Change Response Policy Summit*,[242] and will eventually form the basis for the *National Climate Change Response Policy*[243] which was meant to have been developed in order to inform the COP 15,[244] but has been delayed. Perhaps the most relevant aspect of these scenarios is the conclusion that emissions in South Africa cannot grow unchecked,[245] which by necessity means that Eskom, and the energy sector as a whole, cannot continue with conventional energy infrastructure development. Even existing plants must eventually be replaced or at least retrofitted with emissions reduction technologies.[246] This should have a great impact on the energy

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[238] Environmental White Paper (*supra* note 166), at 74.
[239] *Supra* note 237.
[240] Act 107 of 1998, s2.
[241] See subsection 4.4 of this dissertation, at 76.
[242] Department of Minerals and Energy, *Presentation: South African Wind Energy Programme:*
Renewable Energy Summit (2009).
[243] Department of Environmental Affairs and Tourism, *Government's Vision, Strategic Direction and Framework for Climate Policy* (2008).
[244] UN 'United Nations Climate Change Conference 2009.' Available at http://en.cop15.dk [Accessed 4 January 2010]
[245] DEAT Framework for Climate Change Policy (*supra* note 243), at 28.
[246] *Ibid*.

sector through eventual emissions reduction legislation.[247] The process of emissions reduction in South Africa is to be built on six fundamental pillars, as identified through the *LTMS*.[248] It is under these headings that the Government refers to such measures as '*switch[ing] from coal*'[249] and the '*transition to a low carbon economy*';[250] all of which strengthen the policy framework for RE.

Following the *LTMS*,[251] the Government embarked on a policy formation process that is to culminate in the previously mentioned comprehensive *National Climate Change Response Policy*.[252] The Government has already set a number of decision parameters and deadlines for the process;[253] the ultimate aim of which is the promulgation of legislation[254] within two years after the final drafting of the above *Climate Change Policy*.[255] This may be optimistic given the decade between the *Energy White Paper*[256] and the *NE Act*.[257] However, while this environmental policy-making process is ambitious by South African standards it is necessary, and if most of what the Government proposes is delivered it is likely that the country may truly begin its move to a low-carbon economy, in which RE will have to play a significant role in sustainable growth. For this to occur, the energy policies and laws of South Africa will need to conform to the mentioned ideals above, failing which, the conflict between environmental and energy authorities will persist and derail this vital shift.[258] Fortunately, this harmonisation can already be

[247] DEAT Framework for Climate Change Policy (*supra* note 243), at 27.
[248] Department of Environmental Affairs and Tourism, *Climate Change – The South African Response, Long-term Mitigation Scenarios (LTMS), LTMS findings, policy directions and way forward* (2008), at 9-11. These include GHG emissions reductions and limits, the up-scaling of current initiatives, the implementation of a '*business unusual'* call for action, and most importantly, preparation for the future.
[249] Department of Minerals and Energy, *Presentation: South Africa's Designated National Authority for Clean Development Mechanism* (2009), at 16.
[250] DEAT LTMS Findings (*supra* note 248), at 11.
[251] DEAT LTMS Findings (*supra* note 248).
[252] *Supra* note 247. This policy is envisioned to be completed by the end of 2010.
[253] DEAT LTMS Findings (*supra* note 248), at 5.
[254] DEAT LTMS Findings (*supra* note 248), at 18.
[255] *Ibid*.
[256] *Supra* note 11.
[257] *Supra* note 28.
[258] Sabinet 'DME and DEAT make peace on environmental legislation.' Available at http://www.sabinet.co.za/sabinetlaw/news_par646.html {Accessed 4 January 2010].

seen to be underway, with the *Working for Energy Programme*[259] seeking to bring together the elements of effective energy management and environmental conservation, and the National Treasury and energy authorities seeking to align environment considerations with economic and social goals.[260] This could lead to sustainable development, although without proper departmental communication, vested interests are likely to outweigh all others.[261]

3.3. RENEWABLE ENERGY AS A DRIVER FOR SOCIAL DEVELOPMENT, JOB CREATION AND SUSTAINABLE ECONOMIC GROWTH

Included in the numerous policies that affirm the Government's commitment to RE and EE is a growing understanding that the basis for such commitments lies not only in environmental sustainability, but also in the potential for RE technologies and deployment to provide job creation and socio-economic growth, as has also been recognised by the energy and fiscal authorities. While the most obvious argument in favour of RE generation is environmental protection through emissions reduction, RE also presents a number of opportunities in terms of socio-economic development. Domestically, RE has the acknowledged potential to provide for future economic and social growth,[262] as by its it nature offers solutions to a number of South Africa's unique problems, including off-grid electrification, job creation through labour intensive manufacturing and development processes, and a global competitive advantage in the light of declining gold and resource outputs.[263] Internationally, developing countries, as a group, produce over 40 per cent of existing RE world-wide,[264] with South Africa competing directly with other developing countries. Since the $100 billion[265] RE sector provides

[259] SANERI 'Working for Energy Programme.' Available at http://www.saneri.org.za/working_for_energy.html [Accessed 4 January 2009].
[260] 2009 NTSP (Update) (*supra* note 165), at 10.
[261] *Supra* note 47.
[262] *Supra* note 54.
[263] *Supra* note 55.
[264] *Supra* note 56.
[265] *Ibid.*

the country with a potential competitive advantage, the priorities of South Africa and the potential of RE are particularly aligned.

The first objective of the *Energy White Paper* states that the Government '*will promote access to affordable energy services for disadvantaged households, small businesses, small farms and community services*.'[266] The Government therefore recognises the importance of electricity to society, both in terms of economic growth and better living standards for those who previously had to rely on other forms of energy.[267] This commitment to 'energisation' is also contained in the *Growth, Employment and Redistribution Strategy* (*GEAR*)[268] and the *Reconstruction and Development National Development Policy* (*RDP*).[269] Basic energy services are considered essential basic needs under the *Energy White Paper*.[270] This highlights the strong social underpinning of South African energy policy, with a view towards social redress, equality, and a better life for all. In this regard, RE holds immediate potential in terms of providing so-called 'off grid' electricity to areas far from existing infrastructure.[271] The *Energy White Paper* sets out the short-term goal of '*treat[ing] off-grid electrification in the same way as grid electrification*';[272] as well as the medium-term goal of '*stimulat[ing] the development of new and renewable sources of energy*'.[273] However, this does not seem to have been translated into action by the Government.

The *Energy White Paper* also views the energy sector, and RE in particular, as being able to provide for economic growth and sustainable development.[274] Priorities under this objective include adjusting market

[266] Energy White Paper (*supra* note 11), at 23.
[267] *Supra* note 12.
[268] Department of Finance, *Growth, Employment and Redistribution: A Macroeconomic Strategy* (1996).
[269] African National Congress, *Reconstruction and Development Programme* (1994).
[270] *Supra* note 12.
[271] Energy White Paper (*supra* note 11), at 49.
[272] Energy White Paper (*supra* note 11), at 27.
[273] Energy White Paper (*supra* note 11), at 28.
[274] *Ibid*. Short-term priorities under this objective include encouraging role-players to facilitate empowerment, developing and implementing strategies to remove energy trade barriers, improve information and facilitate increased investment, and introducing special purpose levies to fund dedicated regulatory and energy development agencies. Added to these are the medium-term priorities of adjusting market structures in order to better

structures in order to accommodate competition better,[275] and developing standards and codes of practice for the correct use of RE systems.[276] The transition from a regulated to a more free-market sector could result in many challenges, as evidenced by the blackouts caused by the deregulation of the United States energy sector in 2004.[277] However, this cannot be used as an excuse to delay this transition, which is all the more necessary given the recent governance and accountability issues faced by Eskom.[278] This monopolistic parastatal has arguably led the country into the current energy crisis through its centralised decision-making, which is also set to worsen the country's economic woes through increased electricity prices.[279]

Important under this objective is the acknowledgement by the Government that coal energy generation could have a direct impact on international trade through increasing global environmental standards.[280] While this foresight is noteworthy, it seems not to have been translated into action in the eleven years since the *Energy White Paper* was published, with no regard being shown for the relationship between the long-term nature of new energy plants and the global sentiment towards this in relation to trade and investment.[281] Such considerations are of paramount importance to South Africa, as it relies strongly on exports to the developed world, where the lead is being taken on sustainable energy, as demonstrated in the deliberate attempts by the United States Government to decouple its economy from the oil price through the legislating of increased RE supply and security.[282]

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accommodate competition, promoting energy efficiency in all sectors, and developing standards and codes of practice for the correct use of RE systems. See Energy White Paper (*supra* note 11), at 5, 14, 28 and 100.

[275] Energy White Paper (*supra* note 11), at 100.

[276] *Supra* note 119.

[277] Master Plan (*supra* note 74), at 7.

[278] Business Day 'Former CEO takes swipe at Eskom board over power crisis.' Available at http://test.businessday.co.za/articles/Content.aspx?id=78939 [Accessed 4 January 2010].

[279] National Energy Regulator of South Africa, *Media Statement 24 February 2010: NERSA's Decision on Eskom's Required Revenue Application – Multi-year Price Determination 2010/11 to 2012/13 (MYPD 2)* (2010).

[280] Energy White Paper (*supra* note 11), at 20.

[281] *Ibid*.

[282] *Supra* note 4.

The decouplement of the economy from finite fossil fuels has seen the least progress in terms of real action in South Africa, with no IPPs entering the sector, due to the challenging regulatory and administrative requirements imposed by the DE,[283] as well as Eskom's reluctance to sign these PPAs.[284] As a result, IPPs are mandated to sell their electricity to Eskom,[285] although the *REFIT*[286] has been published to strengthen the IPP position. Regardless, tensions between public benefits and commercial interests '*remain unresolved and are reflected in uneven implementation*.'[287] This is despite the Government stating that it considers RE to be the least cost alternative in many instances.[288] Furthermore, the environmental and social benefits of RE are inexorably linked in that better living standards are achievable through improved health levels, resulting from the eradication of in-home coal and fuelwood lighting and heating.[289]

The above logic of the *Energy White Paper*[290] is continued under the *RE White Paper*,[291] albeit with a stronger focus on RE. This is necessary, given that in its alternatives for universal electrification, the *Energy White Paper* refers to the use of fuelwood as a substitute for electricity that is on par with RE.[292] As sustainably as this resource may be managed, it can never be as renewable as is wind or sunlight. Even if it does provide the energy requirements for poorer households,[293] the adverse health effects[294] surely negate the social upliftment benefits provided. The vision of the *RE White Paper* is to establish a modern and affordable energy sector, resting on the principles of sustainable development and environmental consideration,[295]

[283] Engineering News 'Two areas of concern in Refit II proposals.' Available at http://www.engineeringnews.co.za/article/xxx-2009-10-02-1 [Accessed 4 January 2009].
[284] Eskom's Attitude towards the introduction of competition through IPPs can be seen in its revenue application. Eskom, *Revenue Application, Multi-year Price Determination – 2010/11 to 2012/13* (2009), at 18-19.
[285] *Supra* note 283.
[286] *Supra* note 159.
[287] *Supra* note 80.
[288] *Supra* note 13.
[289] Energy White Paper (*supra* note 11), at 26.
[290] *Supra* note 11.
[291] *Supra* note 72.
[292] Energy White Paper (*supra* note 11), at 80.
[293] *Supra* note 273.
[294] RE White Paper (*supra* note 2), at 9.
[295] *Supra* note 181.

throughout South Africa. The *RE White Paper* espouses the full-costing of externalities in the energy sector,[296] although it never fully integrates this principle into the text as a whole. This is highlighted in a closing provision which states that coal is, and will continue to be, South Africa's most affordable energy option,[297] despite the environment's subsidising of such generation.

Under the *Master Plan*, RE generation and current skills shortages are also factored into decision-making.[298] It is submitted that a combination of the two has the potential to facilitate economic growth and expansion through the attraction of skilled labour and the creation of a cutting-edge sector in the economy, while at the same time addressing the environmental issues relating to conventional energy generation technologies. Many countries have, or are looking at, ways to use RE in this manner, and not merely as a means to achieve environmental targets.[299] In this context, the lack of proper consideration of the above in all long-term energy planning could prove to be a major economic oversight.

On the basis of the above energy policy, the *IEP2 Scenario Document*[300] has sought to rectify the lack of true environmental and social considerations applied to energy generation,[301] by advocating the provision for societies' needs in the most socially beneficial manner possible.[302] This could lead to a favouring of 'off-grid' power over 'grid-power', with RE also presenting an alternative to the conflict that arises when power plants are built on land adjacent to poor and vulnerable communities. While not always the case, social considerations may well rule out coal power as the best option for future energy generation, although this can only be achieved through incorporating binding social considerations into the planning process.

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[296] *Supra* note 46.
[297] *Supra* note 23.
[298] *Supra* note 205.
[299] Austin,Greg et al, *Employment Potential for Renewable Energy in South Africa* (2007), at ix.
[300] *Supra* note 124.
[301] Draft IEP2 (*supra* note 123), at 1.
[302] *Ibid*.

Finally, the *EE Strategy* identifies a number of barriers to energy efficiency that are equally applicable to RE generation.[303] Energy pricing has been established as a major barrier,[304] in that the historically low energy prices have acted as a barrier to innovation and efficiency. Financial instruments required to implement the *EE Strategy* successfully have also been identified, with the objective of promoting energy efficiency that is self-financing and job-creative in nature.[305] It has been noted that the primary cost to the Government in this initiative would relate to information dissemination, which is manageable[306] and can be multi-purposed.

The National Treasury, through its policies, *NTSP*s and *National Budgets*, will have a direct effect on the energy industry through a number of key developments. These include increased funding for the *Working for Energy Programme*[307] and climate change research,[308] as well as the various MBIs and other fiscal instruments that currently exist or are being developed. These instruments are capable of spurring the RE sector into life, and include tax incentives which operate at various points along the 'RE value chain'.[309]

While the *Energy White Papers* and other policy documents do touch on the potential of RE for socio-economic growth, much of the emphasis has been placed on demand-side social upliftment rather than on sustainable economic growth opportunities. The universal electrification goal of the Government,[310] while commendable, is at least partially to blame for the blackouts that South Africa has experienced. This is because such electrification was carried out with coal power and kilometres of transmission lines, rather than through wide-scale use of off-grid, renewable options. Any argument as to the cost-savings of this approach is surely countered by the loss of economic

[303] EE Strategy – First Review (*supra* note 38), at 10.
[304] *Ibid*.
[305] *Supra* note 42.
[306] *Ibid*.
[307] South African Revenue Service, *Environmental Levy Account for Electricity: External Manual* (2009), at 3.
[308] Warburton Attorneys, *Information Alert: South African Budget 2009: Environmental Fiscal Reform and Taxation* (2009), at 1.
[309] These market-based instruments are discussed in greater detail in chapter 4 of this dissertation, at 70.
[310] *Supra* note 266.

production suffered during the rolling blackouts, as well as the loss suffered by the very people who were to benefit, as they turn back to other fuel sources during these blackouts.

3.4. GOVERNANCE AND INSTITUTIONS

It has been noted that the current electricity crisis presents an opportunity for integrating RE into South Africa's energy mix.[311] However, well-capacitated institutions and effective governance are key to translating policy into action. Robust governance frameworks would be necessary in order to manage the resultant environmental, social and economic trade-offs and considerations.[312] There are several entities involved in the governance of the South African energy sector, the majority of which are found within the energy sector. As such the analysis of the sector's governance will be similarly focused. The DE is the overarching authority within the energy and electricity sectors,[313] and it is mandated to develop and implement policy through its various branches.[314]

Recently, a major development took place at the national level, with the former DME being split into the DE and the Department of Minerals (DM).[315] This has removed a major challenge to RE generation in South Africa in that, previously, the DME had the mutually exclusive obligations of regulating the energy sector of South Africa while at the same time promoting the development of the mining sector, which includes coal. With these conflicting responsibilities, coal-generated electricity was likely always to be considered the 'best fit', with environmental considerations being overlooked in the development of both sectors. However, while this splitting of responsibilities bodes well for governance in the sectors, it may well weaken the separate

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[311] Electricity Governance Initiative, *Electricity Governance Initiative: South African launch announcement* (2008), at 1.
[312] *Ibid*.
[313] Department of Minerals and Energy 'What we do.' Available at http://www.dme.gov.za/ministry/whatwedo_dme.stm [Accessed 20 November 2009].
[314] *Ibid*.
[315] President of the Republic of South Africa, *President's Minute no. 690* (2009).

DE in terms of capacity, funding and 'prominence' in the overall structures of the Government.

Bridging the national executive and the industry players in the energy sector is the national regulator, NERSA. NERSA was established under the *National Energy Regulator Act* (*NER Act*),[316] and is mandated with regulating the entire energy sector of South Africa.[317] This is to be done with regard to energy diversity[318] and long-term sustainability.[319] NERSA was created to be an independent oversight entity, with its decisions regulated by law[320] and its members appointed by the Minister of Energy (ME).[321] Members are required to exercise their discretion in a transparent and justifiable manner, while at all times acting in the interests of NERSA.[322] While these provisions seem clear, the partial funding of NERSA by the Government, and the fact that the Government, through the ME, appoints the most senior members of NERSA;[323] pose a potential problem in terms of NERSA's independence and a conflict of interests. This could perhaps be seen in the fact that, even today, while Eskom does not have exclusive rights to electricity generation in South Africa, it does for all intents and purposes have a monopoly on the sector, and maintains and controls the electricity grid.[324]

Eskom is a public company and a parastatal.[325] In 2003, the Cabinet decided to increase the role of IPPs in the sector in order to lessen the country's reliance on a single entity for its electricity.[326] This process has since not been followed through, with Eskom still being in almost full control of energy

[316] Act 4 of 2004, s3.
[317] Act 4 of 2004, s4(1).
[318] Electricity Regulation Act 4 of 2006, s2(e).
[319] Act 4 of 2006, s2(a).
[320] Act 4 of 2004, s10(1)(a).
[321] Act 4 of 2004, s5(1).
[322] Act 4 of 2004, s9(a)-(b). members are to act independently and not in their own or other sectoral interests, and as such must recues themselves from any matter in which they have any interest, direct or otherwise in terms of Act 4 of 2004, s9(c)-(f).
[323] Act 4 of 2004, s5.
[324] *Supra* note 48.
[325] Renewable Energy & Energy Efficiency Partnership (REEEP), *South Africa Policy and Regulatory Review* (2009), at 4.
[326] *Ibid*.

generation and the purchasing of electricity from IPPs.[327] The process has led to a minimal amount of decentralisation in the sector, with distribution being restructured to include municipalities.[328] These new distribution entities are referred to as Regional Electricity Distributors (REDS). While any change to the status quo is welcome, these new distribution entities have been called into question due to their lack of capacity.[329] Regardless of this, there are still only a very limited number of electricity distributors in South Africa, and virtually no competition on the generation side. As a result, the country's electricity sector is almost fully integrated, with IPPs being compelled to sell their electricity to Eskom,[330] which nullifies any competitive benefits of introducing such IPPs. In late 2009 the Minister of Energy took the process further by announcing that the DE intends to purchase IPP-generated RE independently from the structures of Eskom's Renewable Energy Purchasing Agency (REPA).[331] This is a major step towards true integration of RE into the South African electricity sector.

A number of institutional and governance deficiencies and barriers to RE generation have been highlighted, not least of which include the vested interests within the various regulatory institutions and stakeholders.[332] These issues are not new to the sector, and as a result the Government has sought to develop a number of policy objectives in this regard;[333] these are to be factored into the numerous planning processes of the sector. To this end, the second objective of the *Energy White Paper* relates to improving energy governance in South Africa, encompassing greater transparency, and facilitating accountability for all policies relating to new and existing energy generation.[334] Horizontal and vertical coordination are advocated in order to improve the Government's 'ability to address long-term issues, such as the

[327] *Ibid*.
[328] *Supra* note 205.
[329] Master Plan (*supra* note 74), at 19-20.
[330] REFIT Guidelines (*supra* note 159), at 4.
[331] Fin24 'Eskom loses power monopoly.' Available at http://www.fin24.com/Companies/Eskom-loses-power-monopoly-20091204 [Accessed 6 December 2009].
[332] *Supra* note 47.
[333] RE White Paper (*supra note* 2), at 35.
[334] Earthlife Sustainable Energy Briefing 8 (*supra* note 80), at 2.

development of RE resources, to achieve a more sustainable energy mix.'[335] Short-term priorities under this objective include the restructuring of the budget of the DME (now the DE) to reflect these new objectives better.[336] Medium-term priorities include the establishment of RE information resources[337] and the creation of appropriate institutional capacity in order to implement energy efficiency programmes.[338] Again, while these priorities are forward-looking and necessary, restructuring of the DE's budget has not taken place in the ten years following the *Energy White Paper*.[339] Furthermore, while legislation has been updated,[340] much of it remains inadequate and incomplete in comparison to what was envisioned under the *Energy White Papers*. One of the most important governance issues that requires attention is the monopoly of Eskom, which has to date inhibited IPP expansion.[341] While the *Energy White Paper* advocates competition[342] and the *Electricity Distribution Industry Restructuring Bill*[343] was published to facilitate such, this notion has since been abandoned along with the above Bill; this despite Eskom's dismal track record, and statements made to the contrary by many key shareholders.[344]

The final objective of the *Energy White Paper* is energy security.[345] This objective was similarly pursued under the apartheid regime through the development of nuclear and synthetic fuel energy.[346] However this approach, combined with heavy investment in coal power, never resulted in self-sufficiency, and was as a whole a costly failure,[347] felt up until the present day in terms of unrealised development opportunities and environmental costs. It is noted that the Government is pursuing nuclear energy and

[335] Energy White Paper (*supra* note 11), at 25.
[336] *Supra* note 272.
[337] *Supra* note 273.
[338] *Supra* note 129.
[339] Department of Minerals and Energy, *Presentation of the 2008/09 MTEF Strategic Plan* (2008), at 15.
[340] *Supra* note 28.
[341] *Supra* note 48.
[342] Energy White Paper (*supra* note 11), at 8.
[343] Electricity Distribution Industry Restructuring Bill of 2003.
[344] *Supra* note 278.
[345] *Supra* note 24.
[346] *Supra* note 280.
[347] *Ibid*.

synthetic fuels as a priority despite the lessons of the past.[348] This was never envisioned under the *Energy White Paper*, which seeks to promote security through diversity of supply and carriers rather than through self-sufficiency.[349] This has led to the publishing of the *IEP*,[350] under which energy needs are analysed in terms of 'how their fulfilment will contribute to attaining national economic and social goals'.[351] South Africa is also a member of the Southern African Power Pool (SAPP),[352] a regional energy trading platform between various governments in Southern Africa.

From the above it is clear that the *Energy White Paper* seeks to address governance on a national and regional level. Nationally, effective institutions are required for the uptake of RE;[353] while regionally, energy trade may fulfil the dual goals of energy security and increased regional cooperation.[354] This is carried forward in the *RE White Paper*,[355] in which the Government commits itself to the development, implementation, maintenance and continuous improvement of '*an effective legislative system*',[356] in order to '*promote the implementation of renewable energy*'[357] in South Africa. Such a system is envisioned to encompass appropriate pricing frameworks and tariff structures, as well as the integration of IPPs.[358] While much change has been proclaimed by the DE, there has been little real action in this regard. The *RE White Paper* suffers from many of the same deficiencies as the *Energy White Paper*.[359] In terms of true legislative reform, a number of

[348] *Supra* note 272.
[349] *Supra* note 280. Short-term priorities for the achievement of such include increasing sector cooperation with regional and international bodies; and medium-term priorities include integrated resource planning and the introduction of other primary energy carriers into the sector. See also Energy White Paper (*supra* note 11),), at 20 and 27.
[350] *Supra* note 103.
[351] Energy White Paper (*supra* note 11), at 82.
[352] Southern African Power Pool 'Home.' Available at http://www.sapp.co.zw [Accessed 10 December 2009].
[353] RE White Paper (*supra* note 2), at 41.
[354] *Supra* note 6.
[355] *Supra* note 72.
[356] RE White Paper (*supra* note 2), at xii.
[357] *Ibid*.
[358] *Ibid*.
[359] Broadly, these documents have failed to guide legislative development fully in that much of what they contain has been severely watered down in existing legislation. An example would be the non-existence of energy labelling, which was called for under the Energy White Paper; as well as there being no binding renewable energy targets as called for under the RE White Paper.

energy-related laws have been promulgated in the last decade, most notably the *NE Act*,[360] which is now the framework act for the energy sector. It incorporates some of the *RE White Paper's* provisions and goals, but falls short of the provisions of the abovementioned policy documents.

Governance is more than the establishment of institutions and mechanisms, and what is required in both *White Papers*[361] is commitment by the Government and a clear direction for the industry. This would clarify and strengthen the mandates of these institutions, and ensure that the implementation of the Government frameworks would be carried out in a manner which would serve the interests of society rather than a select few, who have the power to initiate government action through broad mandates under vague legislative.

The issue of governance in the energy sector is also addressed in the sector's technical planning documents, which highlight key governance issues and challenges. While the *Master Plan* is somewhat technical in nature, it does refer to certain governance and policy issues with regard to the sector and its various role-players.[362] For instance, a report on the governance and capabilities of the 11 electricity distributors of the country,[363] contained in the *Master Plan*, states that governance and capacity deficiencies rank amongst the biggest challenges to the industry,[364] to the point where the viability of several utilities is called into question.[365] While it highlights such issues, the *Master Plan* does not propose solutions, which is to be expected, given the technical nature and purpose of the document. IPPs are also discussed under the *Master Plan*,[366] with a statement to the effect that up to 30 per cent of new generation capacity can be provided by IPPs,[367] given certain strategic considerations. These include determining the

[360] *Supra* note 28.
[361] *Supra* note 100.
[362] Master Plan (*supra* note 74), at 18.
[363] Master Plan (*supra* note 74), at 18.
[364] Master Plan (*supra* note 74), at 19.
[365] Master Plan (*supra* note 74), at 20.
[366] Master Plan (*supra* note 74), at 55.
[367] *Supra* note 117.

appropriate technologies, the current risk appetite, and the best environmental approach.[368]

While the *NIRP* generally does not address governance issues, the 2009 edition was unveiled alongside a commitment by the Government to administer Power Purchase Agreements (PPAs) outside the structures of Eskom,[369] thereby seeking to address some of the governance issues that have plagued this area of generation for some time. The Government is seeking to establish a separate entity to purchase power;[370] this could either address these issues or serve to 'muddy' the arena – which already hosts numerous and sometimes competing stakeholders – even further.

Governance issues relating to EE and RE are further addressed under the *EE Strategy*, which identifies a number of barriers to energy efficiency. These include institutional resistance to change[371] and a lack of investment confidence;[372] both of which are directly related to a lack of understanding on the part of the relevant stakeholders. This lack of understanding forms a part of a broader pattern of decision-making which has emerged within the Government, with decisions being taken in terms of 'bounded rationality'[373] and without complete and accurate information. An important measure advocated under the *EE Strategy* and having the potential to realise both energy efficiency and socio-economic benefits through job and business creation, is the stimulation of Energy Services Companies (ESCos).[374] These are private enterprises that provide certain energy services, including energy savings,[375] and are typically paid in a lump sum or though ongoing payments in terms of shared costs-savings. Initial financing of their operations is

[368] *Supra* note 117.
[369] 25 Degrees in Africa 'National Integrated Resource Plan will save electricity and money – Director DME.' Available at http://www.25degrees.net/index.php?option=com_zine&view=article&id=862:national-integrated-resource-plan-will-save-electricity-and-money-director-of-dme&Itemid=81 [Accessed 2 February 2010].
[370] President of the Republic of South Africa, *State of the Nation Address* (2010).
[371] EE Strategy – First Review (*supra* note 38), at 11.
[372] *Ibid*.
[373] H Winkler and D van Es 'Energy efficiency and the CDM in South Africa: constraints and opportunities' (2007) 18 1 *Journal of Energy in Southern Africa* at 32.
[374] EE Strategy – First Review (*supra* note 38), at 24.
[375] *Ibid*.

difficult,[376] due to the lack of understanding and confidence in the capabilities and financial potential of such renewable and efficient technologies.[377] For this reason, government support is required;[378] the situation being akin to the current RE situation in South Africa, where 'untested' technologies are not yet deemed sound investments.[379] Another matter of concurrence between the *EE Strategy* and the *Energy White Papers* is the recognition of the mandate given to the ME by the *NE Act*[380] and the *Energy White Paper*[381] in terms of EE. This has resulted in the creation of the National Energy Efficiency Agency (NEEA) in order to facilitate better governance in the industry.[382]

With a clear structure of institutional obligations and duties, political buy-in is all the more likely. However, clear mandates have not been provided, especially in terms of RE development. With no clear designation of duties being prescribed among the multiple departments and institutions being present, a clear map in this regard is required before RE generation in South Africa becomes a reality. A number of disjointed advances have been made regarding energy: fiscal and environmental authorities separately addressing these issues. The lack of real progress on this vital issue in the energy sector has been recognised by the Government, and thus the Electricity Governance Initiative (EGI)[383] has been launched, with the purpose of:

> *'analyz[ing] government and regulatory capacity to create the right conditions for the promotion of RE, efficiency, and social equity, in line with sustainable development and public interests.'*[384]

The EGI will begin with a systematic assessment of the decision-making processes in the South African electricity sector, using a set of indicators to assess the transparency, accountability and institutional capacity of the

[376] *Ibid*.
[377] UNEP SEFI, *SEFI Annual Update '07* (2007), at 4.
[378] EE Strategy – First Review (*supra* note 38), at 25.
[379] *Supra* note 374.
[380] 34 of 2008, s8(2).
[381] Energy White Paper (*supra* note 11), at 10.
[382] EE Strategy (*supra* note 44), at 20.
[383] *Supra* note 311.
[384] *Ibid*.

sector.[385] It will focus on several key areas: energy policy and planning in South Africa will be analysed, with recognition given to the uncertainty created by the 'patchwork' of policy arrangements and developments; regulatory capacity will be analysed in order to strengthen NERSA's oversight authority.[386] Finally, electricity distribution will be considered in terms of the policy developments necessary for the promotion of the restructuring of the industry, the encouragement of energy efficiency and RE use in municipalities, and the support of IPPs.[387] This important Initiative will be driven by the *Economic Governance Programme* at the Institute for Democracy in Southern Africa (Idasa). Idasa will collaborate with a number of civil society organisations and research institutions, including the Energy Research Centre (UCT ERC) and the Centre for Renewable and Sustainable Energy Studies (US CRESES).[388]

3.5. PUBLIC PARTICIPATION, EDUCATION AND ACCESS TO INFORMATION

The freedom of access to state-held information is described as one of the most effective ways of upholding the constitutional values of transparency, openness, participation and accountability within a society.[389] It has been suggested that accountability is unattainable if the Government has a monopoly on the information that informs its decisions.[390] In the pre-Constitutional South Africa there was no general right to access to information or public participation. The Government thrived on secrecy and the suppression of information, and there was virtually no accountability or transparency.[391] Commentators point to numerous statutes containing

[385] *Ibid*.
[386] *Ibid*.
[387] *Ibid*.
[388] EGI launch announcement (*supra* note 311), at 2
[389] Cora Hoexter *Administrative Law in South Africa* (2007) at 91.
[390] Iain Currie & Johan de Waal *The Bill of Rights Handbook 5 ed* (2005) at 684 cited in Hoexter (*supra* note 389), at 91.
[391] Constitutional Court 'Know your rights – access to information. Why protect access to information?' Available at http://www.constitutionalcourt.org.za/text/rights/know/access.html#why [Accessed 14 August 2010].

criminal offences relating to the release of state information.[392] However, with the advent of democracy in South Africa, this situation was addressed first by the *Interim Constitution*,[393] and then by the final *Constitution*[394] and the *Promotion of Access to Information Act* (*PAIA*).[395]

The *Constitution*, through *PAIA*, aims to '*foster a culture of transparency and accountability in public and private bodies by giving effect to the right to access to information'*.[396] Access to information is not only a vital underpinning of a properly functioning participatory democracy,[397] it also increases public confidence in the Government and enhances its legitimacy.[398] Other noted benefits of access to information include the discouragement of improper governmental conduct and corruption, and the facilitation of the protection of rights, insofar as state-held information being invaluable to someone who thinks their rights to administrative justice have been violated.[399] As with a number of the rights contained in the *Bill of Rights* (*BoR)*, the right to access to information relates directly to the energy sector. For the reasons mentioned above, access to information in the context of RE is required to hold the Government accountable in terms of its policies, statements and laws. This is especially true in the energy sector, where commentators have referred to the vested interests in terms of the relationship between the DE, NERSA and Eskom. For these reasons, and due to the constitutional mandate and legally binding provisions of *PAIA*, the energy, fiscal and environmental authorities have had to incorporate access to information into the statutes governing their sectors. This analysis of access to information in the context of RE will therefore be divided under the above-mentioned themes.[400]

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[392] Hoexter (*supra* note 389), at 91, note 227.
[393] Interim Constitution of the Republic of South Africa Act 200 of 1993, s23.
[394] Act 108 of 1997, s32(1).
[395] Act 2 of 2000.
[396] Act 2 of 2000, Preamble.
[397] Jonothan Klaaren and Glenn Penfold 'Access to information' (OS 2002) in Woolman et al (note 15 Hoexter (*supra* note 389), at 62-63).
[398] *Supra* note 389.
[399] For a full discussion of the potential benefits see Lene Johannessen, Jonathan Klaaren and Justine White 'A motivation for access to information legislation' (1995) 112 SALJ 45.
[400] See chapter 1 of this dissertation, at 6.

Increased public participation in the energy sector is promoted in the *Energy White Paper* several times,[401] while increased public awareness and capacity building with regard to RE technologies and their potential are also sought under the fourth goal of the *RE White Paper*.[402] In the area of public awareness some progress has been made, albeit not always for the purposes of promoting RE.[403] The Government envisions the increased capacity, awareness and participation of all members of society and government,[404] although this seems not to have translated into action by the DE.[405]A potential challenge in this regard is the ongoing 'turf war' between the environmental and energy departments,[406] which is likely to create 'knowledge silos' within these organs. A positive element that speaks to the potential success of any future awareness campaign in this regard is the successful awareness and energy saving campaign,[407] embarked upon by the DE and Eskom[408] as a result of the recent energy crisis.

A number of the technical planning documents provide for the increased public participation envisaged by the *White Papers*. This is important, as government officials cannot address issues they do not know about, and these planning documents are used by various levels of government authorities and stakeholders. However, there are a number of flaws in the public participation processes in these documents, made all the more important by their technical nature and content. Major flaws of the *IEP1* are its lack of complete stakeholder participation, and its lack of environmental inputs during the modelling process which is what should set the document apart from the traditional approach to energy planning.[409] These gaps stem

[401] Energy White Paper (*supra* note 11), at 12.
[402] *Supra* note 333.
[403] Eskom 'Energy Efficiency and Demand Side Management Programme.' Available at http://www.eskomdsm.co.za/?q=Programme+Overview [Accessed 5 January 2010].
[404] *Supra* note 333.
[405] Legalbrief Environmental 'National coalition to oppose nuclear expansion in South Africa.' Available at http://www.legalbrief.co.za/article.php?story=20070913133302554 [Accessed 20 September 2009].
[406] *Supra* note 258.
[407] *Supra* note 167.
[408] IOL, 'Prepare for seven years of blackouts.' Available at *http://www.iol.co.za/index.php?set_id=1&click_id=3053&art_id=vn20071115031821658C966840* [Accessed 20 September 2009].
[409] IEP1 (*supra* note 103), at 28.

largely from a lack of capacity and full understanding of the magnitude of this planning project on the part of the then DME.[410] To their credit, this was acknowledged, with a concluding provision to the effect that the gaps are '*to be addressed in Phase II of the energy planning programme'*.[411] The absence of environmental or RE inputs in the *IEP* as an all-encompassing planning document, suggests a lack of awareness and education by the Government.

In the same vein, the *NIRP* is published by NERSA in order to present all stakeholders with a clear picture of the current and future state of South Africa's energy sector.[412] It is an independent report, apart from the *IEP*[413] and *Master Plan*,[414] and is compiled by industry rather than the Government, and can be seen as complementary to the *IEP*, but also as a positive step towards the transparency of the sector as a whole. As such, the *NIRP* is a necessary document, and represents a change from the past secrecy of the sector.

Awareness of the opportunities and benefits of EE is of parallel importance to those of RE. The *EE Strategy* addresses this through a set of standards and an appliance labelling programme; both of which have been used successfully aboard.[415] These have been implemented for vehicle emissions in South Africa,[416] and an extension to the electricity sector could be possible.

Good progress has been made in the area of access to information and stakeholder participation within the energy sector, starting with a national framework law, *PAIA*, and spreading to most of the country's economic sectors. Government organs are now obliged to share information with the public, and are obliged to involve the public in decisions and developments in

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[410] *Ibid*.
[411] IEP1 (*supra* note 103), at 29.
[412] EE Publishers 'Second national integrated resource plan of South Africa.' Available at http://www.eepublishers.co.za/view.php?sid=1649 [Accessed 5 January 2010].
[413] *Supra* note 124.
[414] *Supra* note 74.
[415] *Supra* note 145.
[416] *Ibid*.

which they have an interest. Most notably, long-term planning documents are now available to all who wish to follow the path of the sector, as are EIA procedures[417] for those wishing to be involved in future developments. However, despite this framework being present, there are still a number of challenges that remain within the energy sector, which has not yet managed to shrug off its air of secrecy. Documents relating to future energy developments are not always readily available, as can be seen with *NIRP3* which has not yet been made publicly available. The 'rubber-stamping'[418] of environmental and development decisions is another area of concern, with public participation only being paid lip-service, and the true stakeholders left voiceless and in the dark.

3.6. MARKET-BASED INSTRUMENTS

MBIs have been identified by the energy, fiscal and environmental authorities as a way of promoting RE and complementing regulatory measures with regards to environmental sustainability.[419] Since the financial mechanisms required to stimulate RE generation are very similar to those required for stimulating environmental protection and sustainability, it has been noted that MBIs are particularly relevant and necessary, as opposed to a purely regulatory approach.[420] This is due to the need to rectify current market failures, which fall under four broad categories: negative environmental externalities, positive environmental externalities, an under-provision of public goods, and information failures and uncertainties.[421] They include such failures as the non-costing of externalities and the subsidisation by the environment of dirty energy generation and economic growth.[422] Interventions identified to address these environmental market failures include: '*using markets (using existing prices)', 'creating markets (forming new markets and marketable goods)', 'environmental regulations'* and

[417] Act 107 of 1998, s24.
[418] See generally, Fazeela Hoosen, *The role of public participation in decision-making of EIAs in South Durban*, (2009).
[419] MBI Paper (*supra* note 155), at 26.
[420] MBI Paper (*supra* note 155), at x.
[421] MBI Paper (*supra* note 155), at 49.
[422] *Ibid*.

'engaging civil society'.[423] Progress has been made in all four of these categories, with tax reform being the primary focus.

The *Energy White Paper* seeks to stimulate economic growth[424] through the introduction of competition in the energy sector,[425] as well as by removing price distortions and encouraging the sector '*to be as cost-reflective as possible. To this end prices will increasingly include quantifiable externalities*.'[426] Subsidies, levies and energy taxation differentials,[427] in addition to the restructuring of the sector, have been highlighted as possible options in achieving this balancing of 'multiple objectives for the overall social good',[428] and indeed such initiatives seem to be underway, albeit slowly.[429] These measures come on the back of the notably low energy price in South Africa, brought about by large over-investments in coal power generation[430] and the historical abundance of fuel.[431] NERSA has approved increased electricity tariffs[432] to allow for infrastructure developments by Eskom, following the rolling blackouts of recent years,[433] and although these increases were not granted for the purposes intended under the *Energy White Papers*,[434] their objectives had the potential to prevent electricity and infrastructure shortages, while at the same time maintaining competitive energy prices relative to those anticipated to be levied in the near future.[435] Specific mention is made in the *Energy White Paper* of investigating '*an environmental levy on energy sales to fund the development of RE, energy efficiency and sustainable energy activities*.'[436] This has been implemented through the 2c/Kwh levy on non-RE.[437] This noting of market failures and

[423] MBI Paper (*supra* note 155), at v.
[424] *Supra* note 335.
[425] *Supra* note 275.
[426] *Supra* note 289.
[427] Energy White Paper (*supra* note 11), at 105.
[428] *Supra* note 289.
[429] Chapter 4 of this dissertation provides a review of this legislative progress, at 49.
[430] RE White Paper (*supra* note 2), at ix.
[431] Energy White Paper (*supra* note 11), at 2.
[432] *Supra* note 159.
[433] *Supra* note 408.
[434] *Supra* note 361.
[435] Eskom 'Tariffs and Charges.' Available at http://www.eskom.co.za/live/content.php?Category_ID=26 [Accessed 7 January 2010].
[436] *Supra* note 427.
[437] *Supra* note 307.

opportunities has laid the foundation for extensive MBI use in the promotion of RE generation, which has been followed by the *RE White Paper*.

The very first goal of the *RE White Paper* is the implementation of '*sustainable RE through the establishment of appropriate financial and fiscal instruments*.'[438] Objectives in this regard include ensuring that '*an equitable level of national resources is invested into RE*'[439] given its potential compared to other energy sources. This has been highlighted as an area which has been largely ignored by the Government,[440] with, comparatively, minimal public sector investment being channelled into RE.[441] Furthermore, the facilitation of a positive investment climate[442] and the creation of appropriate fiscal incentives[443] is vital, and while developments are under way at the NT,[444] the current investment climate is hardly positive. Thus, a roadmap for market-based RE development in South Africa is provided by the *RE White Paper*. It is without binding timelines or concrete goals, and essentially allows the DE and Eskom free rein in terms of considering externalities and private sector involvement in the sector.

The *EE Strategy* is more concrete and current, and the number of MBI developments mentioned in its provisions is positive. Important developments in this regard are the National Treasury's *MBI Paper*[445] and recent tax incentives for certain energy efficiency practices.[446] The National Treasury has also earmarked a large financial sum for the implementation of efficiency measures in public sector buildings.[447] Similar financial provisions may be required for successful RE development, with potential market-based mechanisms recognised under the *EE Strategy* including: the CDM; the

[438] *Supra* note 142.
[439] *Supra* note 20.
[440] Engineering News 'Clear regulations needed to help SA unlock "vast" wind power potential.' Available at http://www.engineeringnews.co.za/article/clear-regulations-needed-to-help-sa-unlock-vast-wind-power-potential-2009-12-09 [Accessed 6 January 2010].
[441] *Supra* note 8.
[442] *Supra* note 20.
[443] *Supra* note 142.
[444] Act 17 of 2009, s27(1).
[445] *Supra* note 308.
[446] *Supra* note 259.
[447] *Supra* note 374.

creation and stimulation of voluntary and retail carbon markets[448] akin to the *European Union Emissions Trading System* (*EU ETS*);[449] DSM, whereby demand rather than supply is influenced in an attempt at energy efficiency and conservation; and pricing mechanisms which take into account the full cost of conventional energy generation, thus incentivising both energy efficiency and RE generation.[450] While many of the measures advocated under the *EE Strategy* are zero- or low-cost, financial support is essential for ensuring industry and societal buy-in.[451] In this regard, direct financial incentives, although considered a future possibility, are not considered justifiable in terms of the other pressing social needs,[452] thus the Government will rely mainly on the abovementioned non-financial incentives and MBIs in order to create an enabling environment for energy efficiency and RE.

In 2006 the National Treasury sought to emphasise and determine the future role of MBIs in promoting sustainable development and environmental protection in South Africa through the publishing of the *MBI Paper*.[453] This was done against the backdrop of the numerous environmental challenges faced by South Africa.[454] Relevant challenges include air pollution and climate change, as well as water scarcity and quality management.[455] MBIs are defined as a *'[P]ackage of policy instruments that seek to correct environmentally-related market failures through the price mechanism*.'[456] The *MBI Paper* seeks to explore the benefits and opportunities of environmentally-based taxes, and to provide an elaborate process,[457] including a set of criteria, for the development and evaluation of such.[458]

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[448] *Supra* note 378.
[449] Europa 'Emissions Trading Scheme (EU ETS).' Available http://ec.europa.eu/environment/climat/emission/index_en.htm [Accessed 4 January 2010].
[450] EE Strategy – First Review (*supra* note 38), at 26.
[451] *Ibid*.
[452] *Ibid*.
[453] MBI Paper (*supra* note 155), at i.
[454] Department of Environmental Affairs and Tourism, *National State of the Environment Report* (1999) cited in MBI Paper (*supra* note 155), at iii.
[455] MBI Paper (*supra* note 155), at ii.
[456] *Ibid*.
[457] MBI Paper (*supra* note 155), at vi.
[458] MBI Paper (*supra* note 155), at vii. The criteria for assessing an environmental tax include environmental effectiveness, legislative aspects, technical and administrative viability, competitiveness effects, distributional impacts, and adjoining policy areas. Seealso MBI Paper (*supra* note 155), at 59-64.

The objectives of the *MBI Paper* include: raising revenue through '*the double-dividend hypothesis*',[459] maintaining a coherent policy framework, improving markets and the allocation of resources,[460] and dealing with equity issues and the impact on the poor.[461] The '*double-dividend hypothesis*'[462] states that '*taxing bads'* could create a 'win-win' situation, whereby the quality of the environment is improved (first dividend) while the efficiency of the tax system is also improved through increased taxation (second dividend).[463] While some uncertainty still surrounds the hypothesis,[464] it appears that the National Treasury has chosen to use a carbon tax to regulate carbon in South Africa.[465] This means that although the *MBI Paper* focuses broadly on environmental fiscal reform, it has a very direct and specific relevance to the energy sector and the promotion of RE generation. However, the *MBI Paper* does focus predominantly on revenue-raising instruments, with expense-side reform not being considered in any real depth.[466] It is submitted that expense-side instruments are particularly applicable to RE in the immediate future, and even though much work has indeed been done in this field in the last few years,[467] it has been identified as an area for future research.

Holistically, the *MBI Paper* holds several key messages regarding environmental MBIs.[468] Through it, the National Treasury has acknowledged that MBIs hold certain advantages over pure command and control measures.[469] Furthermore, the development of environmental MBIs must be undertaken according to a set of well-defined criteria, with environmental earmarking not being considered good fiscal policy.[470] Following a comprehensive assessment of revenue-raising MBIs, the *MBI Paper*

[459] MBI Paper (*supra* note 155), at 6.
[460] MBI Paper (*supra* note 155), at 7.
[461] MBI Paper (*supra* note 155), at 8.
[462] MBI Paper (*supra* note 155), at 40.
[463] *Ibid*.
[464] *Ibid*.
[465] MBI Paper (*supra* note 155), at 52.
[466] *Supra* note 453.
[467] *Supra* note 159.
[468] *Supra* note 420.
[469] MBI Paper (*supra* note 155), at 104.
[470] MBI Paper (*supra* note 155), at 105.

identifies several future options for MBI development,[471] some of which are specifically aimed at the energy sector. User charges, levies and administrative fees are to be investigated in terms of natural resources,[472] as is the development of electricity taxes, which would encompass an electricity consumption tax and a fossil fuels import tax.[473] Several developments have already taken place since the *MBI Paper* was published in 2006; the *MBI Paper* has thus served to inform a number of developments in the environmental and energy sectors, and can consequently be seen as an important step towards fiscal support for RE generation in South Africa.

The NTSP deals with the issues of emissions reduction and RE, and specifically the consideration of a carbon tax versus emissions trading.[474] From this investigation, a draft policy paper on carbon pricing is to be published in 2010, to be followed a year later by appropriate legislation, and then by a comprehensive carbon mitigation and adaptation policy.[475]

From the above it is clear that MBIs are considered by the Government to be vital to the support framework required for the true support of RE in South Africa. The DE and DWEA envision the use of MBIs as a way to correct current market failures, and the National Treasury has obliged with the development of numerous such instruments. Much of the above policy has or is being translated into regulation[476] or law,[477] and as such the current fiscal support framework is well on the way to providing the strong support for RE generation that is required but currently absent in South Africa.

[471] See MBI Paper (*supra* note 155), at 89-91 as well as chapter 4 of this dissertation in which these advancements are further analysed. Environmental fiscal incentives to be investigated include environmental funds, soft earmarking or revolving revenues, rehabilitation funds and guarantees, and accelerated depreciation allowances. Here too, much advancement has been made by the National Treasury.
[472] MBI Paper (*supra* note 155), at 65.
[473] MBI Paper (*supra* note 155), at 79.
[474] *Supra* note 219.
[475] *Ibid*.
[476] *Supra* note 159.
[477] The various laws and amendments that have taken place as a result of this process are outlined in chapter 4 of this dissertation, at 49.

3.7. CONCLUSION

The fundamental purpose of an energy policy could be seen as ensuring that energy demand is met in the most sustainable and equitable way, both inter- and intra-generationally. In many respects the *Energy White Papers*[478] go far in promoting such goals; however, it has been pointed out that as long as the energy sector is seen as a means to an end, and subservient to downstream economic activities; minimal long-term public benefits will be achieved.[479] A pertinent and somewhat controversial issue in this regard is the 'no-regrets policy' of the Government,[480] under which economic and sector specific interests will not be constrained by environmental considerations, regardless of any perceived long-term costs. As a result, true cost-of energy generation has yet to be achieved.

Thus, while the above documents have gone a long way to redirect South Africa's energy policy positively through acknowledging environmental and social issues, the implementation and integration of such issues remain problematic, mainly due to the resistance of key stakeholders and conflicting economic development goals.[481] Institutional resistance to change, which will require some form of change management programme, and lack of investment confidence[482] have been identified as further barriers – both directly related to a lack of understanding on the part of the relevant stakeholders. This forms part of a broader pattern of decision-making which has emerged within the Government, with decisions being taken in terms of '*bounded rationality*'[483] and without complete and thorough information.[484] This lack of integration is clearly highlighted by the *White Paper's* identification of coal as a low-cost electricity source that will continue to play a dominant role in electricity generation in the foreseeable future,[485] which is

[478] *Supra* note 361.
[479] Energy White Paper (*supra* note 11), at 6.
[480] *Supra* note 138. Critique on this 'no regrets policy' can be found in Earthlife Sustainable Energy Briefing 8 (*supra* note 80), at 4.
[481] Earthlife Sustainable Energy Briefing 8 (*supra* note 80), at 4.
[482] *Supra* note 371.
[483] *Ibid*.
[484] *Ibid*.
[485] *Supra* note 119.

clearly in contradiction to the principle of full-costing and the 'polluter pays'.[486] Regardless, this rationale seems to have been followed rigidly, with the resources that are being made available for RE generation research being predominantly channelled to 'clean coal' technology and carbon sequestration, as opposed to 'truly' renewable and carbon-free energy generation.[487]

As it has been stated that '*energy is the blood of the economy*,'[488] the current 'business as usual' approach to energy infrastructure means that the economy can be considered to be 'sick', with its energy supply coming predominantly from dirty coal power.[489] Policy is only effective if it is properly implemented, and it is here where South Africa is found wanting the most. While certain issues are better addressed under policy rather than law in order to maximise flexibility, such flexibility must be used in terms of clear and enforceable mandates. It is submitted that law is better suited to these issues in the South African climate and, as will be seen, this is where most progress stands to be made, especially on the back of the above comprehensive framework.

While much of the current policy framework has been translated into law, much reform is still required, as well as a more integrated approach to legislative reform, whereby the principles of sustainable development are embedded into legal provisions, and are not simply listed at the beginning of laws. This would serve to direct governmental discretion better, as well as to make such principles the foundation of South African energy and environmental law, and thus more easily enforceable than they currently are. Such integration would also allow for a greater use of MBIs, the development of which is dependent on the cooperation between the relevant government departments. Thus, while provides a strong basis for the future support of RE, much has still to be done in order to make such support a reality.

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[486] Act 107 of 1998, s2(4)(p).
[487] SANERI 'Research Projects.' Available at http://www.saneri.org.za/activities_research_projects.htm [Accessed 20 September 2009].
[488] *Supra* note 226.
[489] *Supra* note 119.

4. CONSIDERING THE CURRENT SOUTH AFRICAN LEGAL FRAMEWORK

South Africa has a complex legal framework of relevance to RE. As with the above policy framework, it traverses many different departments, but predominantly those legal regimes prescribed by national energy, fiscal and environmental departments. These sectoral regimes must, however, be interpreted and applied in the context of the *Constitution*.[490] This part of the dissertation will seek to analyse the extent to which South Africa has promulgated legislation to give effect to the above policy framework; it will start with a discussion of the relevant constitution dispensation and then discuss each of the relevant sectoral laws. While there are numerous laws of tangential relevance to RE generation in South Africa,[491] this dissertation will focus only on those laws of direct relevance to this topic. In this regard, the content of the existing legal framework is not rich enough to allow for the thematic division put forward in chapter 3 and 5 of this dissertation. Instead, each law of direct relevance will be analysed as a whole in order to highlight the provisions relevant to each theme.

4.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA ACT 108 OF 1997

By necessity, an analysis of any legal framework in South Africa must start with the *Constitution*.[492] As the overarching 'statute' of South Africa,[493] the *Constitution* has an impact on all sectors of society through its *BoR,*[494] cooperative governance and legislative competencies provisions;[495] the energy sector being no exception.[496] The *Constitution* will continue to 'green'

[490] *Supra* note 15.
[491] These include the Mineral and Petroleum Resources Development Act 28 of 2002, Gas Act 48 of 2001, Gas Regulator Levies Act 75 of 2002, Environment Conservation Act 73 of 1989, National Water Act 36 of 1998, Local Government: Municipal Systems Act 32 of 2000, Local Government: Municipal Structures Act 117 of 1998.
[492] *Supra* note 15.
[493] Act 108 of 1997, s2.
[494] Act 108 of 1997, Chapter 2, s7-39.
[495] Act 108 of 1997, Chapter 3, s40-41.
[496] These provisions have led to numerous statutes, including the Intergovernmental Relations Framework Act 13 of 2005, Traditional Leadership and Governance Framework

the sector through the environmental right,[497] which will be applied in conjunction with the right to life.[498] This drives South Africa's electrification programme by classifying electricity services as basic human necessities.[499]

Relevant rights

The '*Bill of Rights is a cornerstone of democracy in South Africa... [t]he state must respect, protect, promote and fulfil the rights in the Bill of Rights'*,[500] which binds the three spheres of government, as well as natural and juristic persons.[501] The Rights contained in the *BoR* are given paramount importance in the law, and any new law or government action must conform to it. In this light, the constitutional environmental right[502] plays a strong role in the formation of energy policy and legislative development. S24 entitles everyone to the right to an environment that is not harmful to their health and well-being.[503] Likewise, everyone has the right to have the environment protected through reasonable legislative and other measures, for both present and future generations.[504] Such protection relates to the prevention of pollution and ecological degradation,[505] the promotion of conservation,[506] and the securing of '*ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development.*'[507] The contents of this right could be seen as a condemnation of the past and current state of the South African energy industry, given the general lack of efficiency of current methods of fossil fuel power

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Act 41 of 2003, Disaster Management Act 57 of 2002, Local Government: Municipal Systems Act 32 of 2000), and the Local Government: Municipal Structures Act 117 of 1998. For further information on the matter in which the Constitution theoretically facilitates cooperative governance, see Nico Cloete et al *Challenges of Co-operative Governance* (2003) and Norman Levy & Chris Tapscott (Eds.) *Intergovernmental Relations in South Africa: The Challenges of Co-operative Governance* (2001).

[497] *Supra* note 417.
[498] Act 108 of 1997, s11.
[499] Energy White Paper (*supra* note 11), 30.
[500] Act 108 of 1997, s7.
[501] Act 108 of 1997, s8.
[502] *Supra* note 417.
[503] Act 108 of 1997, s24(a).
[504] Act 108 of 1997, s24(b).
[505] Act 108 of 1997, s24(b)(i).
[506] Act 108 of 1997, s24(b)(ii).
[507] Act 108 of 1997, s24(b)(iii).

generation.[508] Indeed, this right has resulted in the promulgation of the *NEMA*[509] which, through its principles, provisions and more specific *National Environmental Management Acts* (*NEM Acts*),[510] seeks to regulate and mitigate all forms of pollution in South Africa. As with *PAIA*,[511] *NEMA* is a framework law, promulgated as a direct result of the Government's constitutional mandate. Besides resulting in the creation of these environmental laws, the s24 right is also supreme, and thus any other national and other legislation must conform to it. Other constitutional laws applicable to the energy sector include the constitutional property right[512] and the right to water.[513]

BoR rights to be used in the enforcement of the above substantive rights include the right to access to information,[514] and just administrative action,[515] both of which have resulted in legislation: the *PAIA*[516] and the *Promotion of Administrative Justice Act* (*PAJA*).[517] The constitutional right of access to information is very broad. Firstly, it allows access to any information held by the state.[518] Secondly, everyone now has the right to any information held by another person that is required for the exercise or protection of any rights;[519] this right therefore provides everyone with the right to information that does not necessarily relate directly to them. With regard to RE, the provisions

[508] EurActiv – EU Information Website 'Analysis: efficiency of coal-powered stations – evaluation and prospects.' Available at http://euractiv.com/en/energy/analysis-efficiency-coal-fired-power-stations-evaluation-prospects/article-154672 [Accessed 4 January 2010]. For an understanding of the conversion efficiency rationale see: Eike Roth, *Why thermal power plants have a relatively low efficiency* (2005) Available at https://docs.google.com/viewer?url=http://www.sealnet.org/s/9.pdf [Accessed 20 September 2009].
[509] *Supra* note 167. Promulgated in terms of the s24(b) Constitutional mandate.
[510] National Environmental Management: Protected Areas Act 57 of 2003, National Environmental Management: Biodiversity Act 10 of 2004, National Environmental Management: Air Quality Act 39 of 2004, National Environmental Management: Integrated Coastal Management Act 24 of 2008, National Environmental Management: Waste Act 59 of 2008.
[511] *Supra* note 395. PAIA was promulgated in order to give effect to the Constitutional right of access to information, in terms of s32(2) of the Constitution.
[512] Act 108 of 1997, s25.
[513] Act 108 of 1997, s27(1)(b).
[514] Act 108 of 1997, s32.
[515] Act 108 of 1997, s33.
[516] *Supra* note 395.
[517] Act 3 of 2000.
[518] Act 108 of 1997, s32(1)(a).
[519] Act 108 of 1997, s32(1)(b).

relating to Government information are most pertinent insofar as they relate to government policies, plans and other documents relating to the future of the South African energy sector. To ensure that these rights are clearly and accurately enforced, the *Constitution* requires the enactment of national legislation:[520] the *PAIA*.[521] *PAIA* can be seen as a huge step in the direction of access to information and public participation. This trend has since been carried forward in sectoral laws and policies, as is particularly evident in the *RE White Paper*,[522] *NEMA*[523] and the *NE Act*.[524]

It must be said that these rights are not without limitation: s36 allows for their limitation under very particular circumstances,[525] which could be seen as a way to bypass environmental prerogatives in favour of socio-economic development; however, the s36 considerations do not warrant this. This point of view is based on the future implications of a disregard for the environment, as well as on the requirements of reasonableness and justifiability[526] when dealing with the rights contained in the *BoR*.

Cooperative governance

The South African Government comprises a national, provincial and local sphere; these are individual and distinctive, but also interrelated.[527] To ensure the effective operation of the public sector, all spheres of government must observe and apply cooperative governance principles[528] of the

[520] Act 108 of 1997, s32(2).
[521] *Supra* note 395.
[522] *Supra* note 72.
[523] *Supra* note 167.
[524] *Supra* note 28.
[525] Act 108 of 1997, s36.
[526] Act 108 of 1997, s36(1).
[527] Act 108 of 1997, s40(1).
[528] Act 108 of 1997, s41. These principles include preserving the peace, national unity and the indivisibility of the Republic; securing the well-being of the people of the Republic; providing effective, transparent, accountable and coherent government for the Republic as a whole; being loyal to the Constitution, the Republic and its people; respecting the constitutional status, institutions, powers and functions of government in the other spheres; not assuming any power or function except those conferred on them in terms of the Constitution; exercising powers and performing functions in a manner that does not encroach on the geographical, functional or institutional integrity of government in another sphere; and co-operating with one another in mutual trust and good faith.

Constitution.[529] Organs of state involved in an intergovernmental dispute are obliged to make every reasonable effort to settle the dispute before approaching a court.[530] Cooperative governance must be further facilitated by an Act of Parliament.[531]

The *Constitution* provides the three spheres of government with their own legislative competencies[532] which must be exercised under the above concepts of cooperative governance.[533] While the power to legislate usually implies the duty to administer such legislation, in South Africa it is possible for one sphere of government to legislate, while mandating another sphere to implement and administer the provisions of such law.[534] Regardless, provincial level actions must conform to national level developments, in accordance with the abovementioned cooperative governance.[535]

Legislative and executive competences

The National Parliament may legislate on any matter, including those contained in *Schedule 4*[536] but excluding *Schedule 5.*[537] Energy and minerals are not mentioned in the *Schedules*, giving the national Government exclusive competency in these areas[538]. S104 of the *Constitution* provides for the provincial competencies:[539] the provinces may legislate on matters contained in *Schedule 4 and 5*,[540] as well as on *'any matter outside those functional areas and that is expressly assigned to the province by national*

[529] Act 108 of 1997, s40(2).
[530] Act 108 of 1997, s41(3).
[531] Act 108 of 1997, s41(2).
[532] The Constitution deals with the National Government in Chapters 4 and 5 ('Parliament' and 'The President and National Executive'); Provinces in Chapter 6 ('Provinces'); and Local Authorities in Chapter 7 ('Local Government'). This is tied together by the Cooperative Governance provisions in Chapter 3.
[533] Act 108 of 1997, Chapter 3, s40-41.
[534] Jan Glazewski *Legal Opinion on constitutionality of a proposed provincial renewable energy act, Western Cape Clean Energy Governance Programme* (2007), at 4.
[535] *Supra* note 533.
[536] Act 108 of 1997, s44(1)(a)(ii).
[537] Unless it is a matter in which it can specifically intervene under s44(2).
[538] Act 108 of 1997, s44(1)(a)(ii) and s104(1)(b).
[539] Act 108 of 1997, s104.
[540] Act 108 of 1997, s104(1)(b).

legislation'.[541] With regard to the concurrent competencies contained in *Schedule 4*, legislation that is '*reasonably necessary for, or incidental to, the effective exercise of power concerning any matter listed in "Schedule 4", is effectively legislation promulgated under Schedule 4*.'[542] It has been submitted that:

> *'the items "Environment", "Air Pollution", "Agriculture", "Regional Planning and Development" and "Urban and rural development", all bring a RE act under the ambit of concurrency contemplated in Schedule 4.'*[543]

This seems to have been followed by some provinces, with the Western Cape having published an RE policy,[544] and currently working on a *Renewable Energy Bill*.[545] *Schedule 5* provides for matters designated as exclusively under provincial competence, although this does not mean that National Government is completely barred from legislating on these issues. There are a number of circumstances under which the national Government may intervene.[546]

4.2 ENERGY SECTOR LAWS

The South African energy sector is highly regulated, with the majority of the past and present energy laws dealing with the licensing of generators and distributors. To a lesser extent, and not until fairly recently, these laws provide substantive guidance in terms of the sustainability of the sector. There are three primary energy laws in South Africa: the *National Energy Act*,[547] the *National Energy Regulator Act*,[548] and the *Electricity Regulation Act*.[549]

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[541] *Ibid*.
[542] Act 108 of 1997, s104(4).
[543] Glazewski *(supra* note 534), at 5.
[544] Department of Environmental Affairs and Development Planning: Western Cape, *Final Draft: White Paper on Sustainable Energy for the Western Cape Province* (2008).
[545] Glazewski *(supra* note 534), at 1.
[546] *Supra* note 537.
[547] *Supra* note 28.
[548] Act 40 of 2004.
[549] Act 4 of 2006.

National Energy Act 34 of 2008

The *NE Act* is South Africa's framework energy law. It seeks to establish a long-term energy model for the country, as well as to 'fill the gaps' left by older legislation with regard to this important sector of the economy.[550] The *NE Act* is divided into several broad sections, namely: RE, access to information, socio-economic rights, integrated energy planning and the required institutions in these regards. The Act seeks to utilise the *IEP*[551] as the main tool for addressing these issues, and prescribes its contents. [552] While these considerations are broad-ranging, a potentially useful addition would be the explicit application of *NEMA*,[553] which would enforce certain key principles, including the 'polluter pays' and the precautionary principle.[554] A basis for this inclusion is found in the direct mention of *PAIA*[555] in the *NE Act*.[556] The reasoning that *NEMA*, as a framework act, does apply to society as a whole[557] does not hold water given that *PAIA* is similarly a framework act promulgated as a result of a constitutional imperative.[558] Another unusual exclusion in the *NE Act* is the non-recognition of international commitments regarding RE and emissions reduction, especially given that this recognition is the main method of ratification in South Africa.[559] This lack of explicit recognition was echoed in government statements[560] in the run-up to *COP 15*.[561] While these comments have since been contradicted by the Government's proclaimed commitment to the reduction of emissions,[562] it

[550] Act 34 of 2008, s2.
[551] *Supra* note 103.
[552] See Act 34 of 2008, s6(1) as well as chapter 3 of this dissertation, which analyses the IEP in greater detail. The prescribed contents of the IEP include considerations of security of supply, economically available energy resources, affordability, universal accessibility and free basic electricity, social equity, employment, the environment, international commitments, consumer protection, and the contribution of energy supply to socio-economic development.
[553] *Supra* note 167.
[554] Act 107 of 1998, s4(a)(vii).
[555] *Supra* note 395.
[556] Act 34 of 2008, s3(1).
[557] Act 107 of 1998, Preamble and s1.
[558] *Supra* note 509.
[559] Act 108 of 1997, s231.
[560] Engineering News 'SA will not commit to growth-threatening climate targets.' Available at http://www.engineeringnews.co.za/article/sa-will-not-commit-to-growth-threatening-climate-targets-2009-09-10 [Accessed 20 September 2009].
[561] *Supra* note 244.
[562] UNEP environment for development 'South Africa.' Available at http://www.unep.org/climatepledges/Default.aspx?pid=68 [Accessed 5 January 2010].

remains to be seen if such stated goals are given the effect of law, given the current lack of support in this overarching energy act.[563]

Apart from these exclusions, the *NE Act* has two major flaws in terms of RE in South Africa: a failure to concretise RE obligations through the setting of clear targets and timeframes; and a failure to create binding RE provisions, so as to direct firmly Government policy formation. In terms of the latter, the drafters of the *NE Act* have chosen to rely on guidelines within the Act, in the hope that the Executive will take the initiative through the drafting of Regulations. In this way the *NE Act* allows the Executive wide discretion in terms of South Africa's current legislative framework and position with regard to RE.

Central to the *NE Act* is the promotion, sustainability, affordability and diversity of energy supply within the sector, partly through environmental considerations, and partly through the integration, accountability and transparency of the sector and related government institutions.[564] This can be seen as an attempt at concretising the Government's stated position vis-à-vis the *Energy White Paper*.[565] However, as with the *Energy White Paper*, the *NE Act* suffers from a general lack of specificity and detailed obligations on the Government in its provisions, and has been criticised as a lost opportunity to flesh out the constitutional environmental right[566] and establish a workable framework for RE in the country.[567]

The *NE Act* seeks to integrate and balance a number of competing factors[568] under the concept of sustainable development,[569] a broadly applicable

[563] Mandatory emissions reductions are not provided for through enforceable targets or similar instruments.
[564] *Supra* note 550.
[565] *Supra* note 11.
[566] Earthlife Africa JHB, *Sustainable Energy Briefing 7: National Energy Bill* (2005), at 1.
[567] Earthlife Sustainable Energy Briefing 7 (*supra* note 566), at 4.
[568] *Supra* note 550. The *NE Act's* objectives include diversity of supply, information collection and dissemination, providing for health and safety measures, increased access to electricity in order to facilitate increased living standards, and ensuring effective planning of the sector and contributing to sustainable development in the economy.
[569] Act 34 of 2008, s2(g).

concept,[570] with several of the *NE Act's* provisions suffering a similar fate.[571] This may be as a result of political compromise and vested interests,[572] but the *NE Act* will need to be revised to include concrete obligations before RE is embraced as an equally important component of the future of the South African energy sector. Ultimately, the *NE Act* seeks to create a long-term energy model for the country which does not revolve around conventional energy sources and which does not focus solely on economic drivers of development.[573] However, it follows largely the vagaries of the *Energy White Paper*,[574] and does not provide a clear and enforceable mandate to the Government; instead providing for certain planning processes which allow for almost unfettered governmental discretion.[575] While not the only law dealing with the electricity sector, the *NE Act* is the only statute suited to set RE targets – an important requirement for stimulating RE generation over coal power, and thereby addressing the environmental injustices of the past.[576]

The health and environmental impacts of energy carriers is an important cross-cutting issue covered by the *NE Act*.[577] In this regard, the minister is afforded great discretion in implementing preventative or mitigation measures, aside from certain mandated levels of consultation with various other ministers and stakeholders.[578] While other binding provisions in this regard are required, this one mandatory requirement of consultation may in itself prove problematic due to the past conflicts between the energy and environmental authorities.[579] The *Energy White Paper*[580] preceding the *NE Act* acknowledges the detrimental effects of current forms of household

[570] Phillipe Sands, *Principles of International Environmental Law* 2ed (2003), at 293.
[571] Act 34 of 2008, s4. Many provisions in the Act contain virtually unfettered Ministerial discretion when taking environmental and social factors into account in terms of long-term energy planning.
[572] *Supra* note 47.
[573] *Supra* note 550. The objectives of the *NE Act* go beyond economic considerations to include environmental and social objectives for the energy sector.
[574] *Supra* note 11.
[575] *Supra* note 571. The *NE Act's* provisions contain almost unfettered Ministerial discretion when taking environmental and social factors into account for long-term energy planning.
[576] Act 107 of 1998, Preamble.
[577] *Supra* note 571.
[578] *Ibid*.
[579] *Supra* note 258.
[580] *Supra* note 11.

energy use, such as charcoal and fuelwood for lighting and cooking, [581] on the health of the poor. The use of conventional coal-generated power to address these issues would simply transfer this air pollution to the greater part of society, again highlighting the need for binding and supportive RE provisions. The *NE Act* has failed to address this problem holistically through binding targets, and while this is not its primary objective, the *NE Act* was meant to build on existing legislation, which in terms of current global trends should require some form of RE obligation.[582] In this way, the *NE Act* can be seen to be in moral contradiction with the constitutional environmental right,[583] as well as with its own proposed integrated approach to the energy sector.[584] The *NE Act* takes this right into account permissively through the ministerial discretion to implement environmental protection policies,[585] with precedent for stronger support being found in the *Local Government Municipal Systems Act*,[586] which indirectly supports the idea of universal access to electricity as well as the environmental right. A case can be made for the international support of such environmental considerations, as seen in the *International Covenant on Economic, Social and Cultural Rights* (*ICESCR*),[587] and the *Convention on the Elimination of All Forms of Discrimination Against Woman* (*CEDAW*).[588] South Africa is a party to these conventions, as well as to the UNFCCC.[589]

While the *NE Act's* lack of prescription frees the minister from conventional wisdoms when tackling these difficult issues, not having firm environmental obligations also means that the Minister need only show some form of action in order to be compliant with the *NE Act*, with no real improvement being necessary. This also makes challenging the DE's actions difficult for interested and affected parties.

[581] Energy White Paper (*supra* note 11), at 31.
[582] *Supra* note 12.
[583] *Supra* note 417.
[584] Act 34 of 2008, s6.
[585] *Supra* note 571.
[586] *Supra* note 395.
[587] International Covenant on Economic, Social and Cultural Rights, 1966 United Nations General Assembly Resolution 2200A(XXI) (1966).
[588] Convention on the Elimination of All Forms of Discrimination against Women, 1981 United Nations General Assembly Resolution 34/180 (1979).
[589] *Supra* note 1.

While environmentally weak, the *NE Act* strongly follows the social underpinnings of the current Government.[590] The Act contains numerous provisions in this regard, with a strong focus on the provision of universal access to appropriate energy services to all members of society as seen below:[591]

> *'Energy services are essential for improving quality of life through access to services and modern development is not possible without energy.'*[592]

> *'Energy is the life-blood of development. Development is about reducing poverty and about increasing access to basic needs so as to allow people the freedom of self development. Communities do not exist in a vacuum but within a framework of government policies, laws and institutions. It is therefore incumbent on us to present an energy policy that will achieve our desired objectives.'*[593]

The right to free electricity, although not explicitly spelt out in law, has been supported by the *Constitutional Court* (CC),[594] which makes it government imperative. Unlike the above environmental provisions,[595] the considerations[596] required under this socio-economic mandate are directory, although they are not weighted, which essentially allows a free rein to utilise coal technologies. The effect of not prescribing weightings to the factors will be to reinforce conventional wisdom, which will see environmental considerations giving way to social considerations, which in turn will give way to economic considerations.

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[590] *Supra* note 361.
[591] Act 34 of 2008, s5(1).
[592] *Supra* note 499.
[593] *Supra* note 226.
[594] *Government of the Republic of South Africa v Grootboom* 2000 (11) BCLR 1169 (CC) para 37 at 9.
[595] *Supra* note 571.
[596] Act 34 of 2008, s5(2). These considerations include: the availability of energy resources, the optimisation of existing energy infrastructure, the provision of information and training regarding energy and its optimal utilisation, the sustainability of the energy provision, affordability, cost-effectiveness, the State's commitment to provide free basic electricity to poor households, and the appropriate governance procedures for government sponsored programmes as prescribed by the *Public Finance Management Act* 1 of 1999.

The energy sector itself is primarily the domain of the Government, through stringent regulations and the monopoly of Eskom, a parastatal. Thus, to promote transparency and administrative justice, the *NE Act* introduces public participation and consultation into infrastructure decision-making.[597] However, this is weakened through the direct application[598] of *PAIA*,[599] which in itself could prove prohibitive of meaningful public participation in such a technical industry traditionally shrouded in secrecy. The inclusion of *PAIA* potentially excludes ordinary citizens from requesting information about such projects, for fear of being accused of being on a 'fishing expedition'.[600] This explicit inclusion could well be considered to be in bad faith, as it was not directly required, and also since *NEMA* was not so expressly mentioned. Public awareness raising is something easily legislated for, as are the issues of public participation and transparency, and therefore the *NE Act* could have gone further in promoting these issues.

The *NE Act* represents a significant improvement on past energy legislation, and deals with a number of key issues which were previously not addressed. However, there are also a number of issues which it has failed to deal with adequately, including RE targets and governance. Some of these areas are dealt with under other laws, which do align with the *NE Act*, and these are discussed below.

National Energy Regulator Act 40 of 2004

The *NER Act*[601] deals with the governance of the energy sector through the creation of *NERSA*. *NERSA*[602] is mandated to regulate the energy industry in accordance with existing law, [603] with its roles including the licensing of electricity generators[604] and the regulation of energy tariffs to be charged by

[597] Act 34 of 2008, s3 and s6(7).
[598] Act 34 of 2008, s3(1)(b).
[599] *Supra* note 395.
[600] *Earthlife Africa (Cape Town Branch) v Eskom Holdings Limited* (unreported WLD Case No. 04/27514), at para 47.
[601] *Supra* note 549.
[602] *Supra* note 316.
[603] *Supra* note 320.
[604] 4 of 2006 s4(a)(i).

Eskom.[605] The combination of the *Eskom Act*[606] and *NER Act* has created South Africa's current energy governance infrastructure, including the monopoly of Eskom. The substantive provisions of the *NE Act* are 'hung' on the framework of the *NER Act*. Seen thus, the *NE Act* and *NER Act* complement each other, with the former providing substantive obligations, and the latter, along with the *Electricity Regulation Act* (*ER Act*),[607] providing the procedural and administrative framework for the sector.

Electricity Regulation Act 4 of 2006

The objectives of the *ER Act* include achieving the sustainable, efficient, effective and integrated electricity infrastructure, for both present and future generations.[608] It also seeks to promote energy diversity and efficiency.[609] In this way the *ER Act* provided some guidance with regards to RE and the energy sector as a whole in the period before the promulgation of the *NE Act*. Indeed, the objectives of these Acts are not dissimilar.

While the *ER Act* is predominantly administrative in nature, there are a number of provisions that have a direct impact on RE in South Africa, especially in terms of providing for a regulatory framework on which RE generators are put on equal footing with conventional coal power generators.[610] In this regard, the *ER Act* has sought to incentivise and support RE and energy efficiency technology,[611] both directly through financial support[612] and indirectly through the application of environmental considerations to the licensing process.[613] While mandatory, these provisions remain fairly broad, and thus the required actions by the licensee are left largely to the discretion of NERSA. It therefore remains to be seen whether the *ER Act* will achieve an acceptable level of environmental protection.

[605] 4 of 2006 s4(a)(ii).
[606] Act 40 of 1987.
[607] *Supra* note 549.
[608] Act 4 of 2006, s2(a)-(b).
[609] *Supra* note 318.
[610] Act 4 of 2006, s2(e) and s15(1)(r)-(s)
[611] Act 4 of 2006, s46(1)(b).
[612] Act 4 of 2006, s16(1)(a).
[613] Act 4 of 2006, s11(2)(e).

The *NER Act* established NERSA as the regulator of the energy industry. The *ER Act* was promulgated with the purpose of establishing a national regulatory framework for the energy industry,[614] as well as making NERSA[615] the custodian and enforcer thereof.[616] NERSA is empowered to administer licences and tariffs, as well as to regulate matters incidental thereto, including compliance and enforcement of the law.[617] In terms of the *NER Act*, no one may generate, transmit or distribute electricity without the relevant licence issued in terms of the prescribed process.[618] Aspects of this process include showing compliance with any *Integrated Resource Plan* (IRP)[619] applicable at the time, as well as compliance with applicable labour, health and safety, environmental and any subordinate legislation.[620] However, according to *Schedule 2* of the *ER Act*,[621] there are a number of circumstances in which an individual need not apply for a licence, including generation for demonstration purposes, generation for personal use, and non-grid generation not for commercial use.[622] The *ER Act* allows NERSA to make any conditions on these licences as it sees fit, including on the type of energy sources from which electricity may be generated, and on any relevant environmental standards and requirements.[623] Essentially the *ER Act* expands the various obligations, duties and powers of NERSA, and effectively contains the substantive governance and regulation framework for the industry as a whole.

Aside from the licensing provisions, one of the most important provisions of the *ER Act* with regard to the development and promotion of RE generation is the provision for tariff principles.[624] These principles require that, when determining the price that an energy generator may charge, NERSA must allow an efficient generator to recover its full costs, including an acceptable

[614] Act 4 of 2006, s2.
[615] Act 4 of 2004, s3.
[616] Act 4 of 2006, Preamble.
[617] Act 4 of 2006, s4.
[618] Act 4 of 2006, s8.
[619] Act 4 of 2006, 4(a)(iv).
[620] *Supra* note 613.
[621] Act 4 of 2006, Schedule 2.
[622] *Ibid*.
[623] Act 4 of 2006, s15.
[624] *Supra* note 605.

return on investment.[625] NERSA must also provide incentives for continued technological and economic improvement within the sector.[626] These provisions have led directly to the current *REFIT*,[627] which is envisioned to place the various energy generation sources on equal footing.[628] This is important, given that RE sources are more expensive in the short term due to the lack of full-costing applied by Eskom, NERSA and the Government with regards to coal-generated electricity.[629] While mandatory, these tariff and full-costing provisions remain fairly broad, and thus actions are left largely to the discretion of NERSA. Indeed, the *REFIT* has been slow in the coming, and has caused much controversy through the perceived inadequacies and general lack of application.[630]

Despite its deficiencies, the *ER Act* does represent a shift towards a more integrated energy sector, as well as provides a legal mechanism for the enforcement of the rights of RE generators and electricity consumers in terms of the transparency of NERSA's activities.[631] The *ER Act* also allows for substantial ministerial flexibility in terms of making Regulations on issues such as codes of conduct, allowable generation sources, and other environmental considerations.[632] All these features are vital to the proper governance of the South African energy sector.

4.3 FISCAL LAWS

While not having a direct mandate to promote and support RE or the energy sector in general, the National Treasury is nonetheless providing increased guidance in these areas through its various policies, strategies[633] and legislation.[634] The National Treasury's support for clean energy production is

[625] *Supra* note 612.
[626] Act 4 of 2006, s16(1)(b).
[627] *Supra* note 159.
[628] REFIT Guidelines (*supra* note 159), at 3.
[629] *Supra* note 318.
[630] *Supra* note 283.
[631] Act 4 of 2006, s16(1)(c).
[632] Act 4 of 2006, s47.
[633] *Supra* note 157.
[634] *2009 Budget Highlights* (*supra* note 160), at 2.

concretised in the *TLA Acts*[635] and the *Revenue Laws Amendments Acts* (*RLA Acts*);[636] which contain important environmental incentive amendments in terms of the National Treasury's *Budget Proposals*.[637] Thus, the National Treasury's most valuable contribution to RE in South Africa is the development and implementation of MBIs, in order to correct certain market failures associated with the energy production sector.[638]

Taxation Laws Amendment Acts

Tax Exemptions for Certified Emissions Reductions

In direct support of RE generation in South Africa, the National Treasury has declared a tax exemption for Certified Emissions Reductions (CERs).[639] CERs are generated through the use of the CDM for emissions reduction in developing countries, usually in the form of RE or EE technologies.[640] Through this exemption, the National Treasury recognises the need for GHG reductions.[641] This amendment exempts the holder of a valid CDM project registration from both income and capital gains tax, as well as from value-added tax through CERs being declared zero rated, exported services.[642] In this way, the National Treasury has acknowledged the CDM as a useful source of 'clean funding' for energy infrastructure, which has been overlooked and under-utilised in South Africa.[643]

The conditions for such exemptions are as stringent as those required for the actual CDM project and include registration with South African and *UNFCCC* authorities,[644] both of which require the proof of four elements of additionality:

[635] *Supra* note 162.
[636] Act 35 of 2007.
[637] South African Revenue Service, *Budget 2009/2010 – Tax Proposals 2009/2010* (2009), at 9.
[638] *Supra* note 155.
[639] Act 17 of 2009, s26.
[640] Explanatory Memorandum on the Taxation Laws Amendment Bill (*supra* note 195), at 30.
[641] *Ibid*.
[642] *Ibid*.
[643] Explanatory Memorandum on the Taxation Laws Amendment Bill (*supra* note 195), at 29.
[644] *Supra* note 640.

environmental, financial, investment, legal and technical.[645] Despite these onerous requirements, this amendment is vital for CDM investment in South Africa, where it was too expensive to do so in the past.[646] This attempt at the utilisation of foreign investment bodes well for RE development in South Africa, although there is concern about whether the exemption comes too late, with the CDM already firmly entrenched in South America and Asia.[647] In fact, instead of concentrating on this external source of funding which is only certain until 2012 as a result of the lack of agreement at COP 15,[648] the Government should focus on the domestic quantification and trade of emissions reduction in an effort to address national emissions levels without reliance on developed countries. While not directly supporting emissions trading, this CDM tax exemption does pave the way for such trading in South Africa, which is further supported by the National Treasury's current research into the potential of such a market in the future, as opposed to the seemingly preferred carbon tax.[649]

Energy Efficiency Tax Deductions

The first of a number of impending tax amendments to come into effect soon is an allowance for EE savings in the form of depreciation deductions.[650] This lengthy and technical amendment is set to become effective in 2010, with a sunset clause resulting in the expiry of such on 1 January 2020.[651] The deduction will only be allowed for certified savings, with the *Income Tax Act* providing the relevant calculation,[652] for which the measurements and standards are to be based on the *International Measurement and Verification*

[645] Explanatory Memorandum on the Taxation Laws Amendment Bill (*supra* note 195), at 28.
[646] *Supra* note 640.
[647] New Energy Finance, *Research Note, Insight Services: Wind, China, Carbon Markets* (2008), at 1.
[648] *Supra* note 3.
[649] *Supra* note 219.
[650] Act 17 of 2009, s27.
[651] Act 17 of 1009, s27(2).
[652] Act 17 of 1009, s27(3).

Protocol of the Efficiency Valuation Organisation,[653] which injects an element of international best practice into the country's energy framework.

Revenue Laws Amendments Acts

Incentives for investments in clean production technologies and energy efficiency

An important incentive aimed directly at RE generation was inserted into the *Income Tax Act*[654] through the *RLA Act* of 2008.[655] This provision allows for the accelerated depreciation of machinery and equipment used in the production of biofuels and RE, specifically from wind, sunlight, biomass and water.[656] While this amendment has not yet been proclaimed, the sentiment seems to have been followed and implemented by a greatly altered provision in the *Income Tax Act*,[657] which allows for deductions in terms of training and investment aimed at improving an industry's energy efficiency. The requirements for qualification under this allowance are detailed and stringent, and include such things as the effect on and advancement of the industry in question.[658] A set of draft Regulations[659] has been published in order to allow companies to take better advantage of the deductions through a greater understanding of the process.

Finally, this incentive scheme is very similar to, and indeed complimented by, the energy efficiency incentives under the *TLA Act*[660] mentioned above. Both require verification by an independent entity, and both seek to counteract the possibility of EE being punished through increased taxation on increased revenue due to the accrued savings.

[653] Explanatory Memorandum on the Taxation Laws Amendment Bill (*supra* note 195), at 32.
[654] Act 58 of 1962.
[655] Act 60 of 2008.
[656] Act 60 of 2008, s12B(1).
[657] Act 58 of 1962, s12I.
[658] Act 60 of 2008, s12I(7)-(8).
[659] Draft Regulations under Section 12I of the Income Tax Act 58 of 1962 (2009).
[660] *Supra* note 650.

Tax deductions for environmental capital expenditure

In 2007, the National Treasury proposed several amendments to the *Income Tax Act*[661] in an effort to ease the financial burden of compliance with South Africa's environmental laws on industry.[662] These proposals included accelerated depreciation allowances for environmental capital expenditure and tax deductions for environmental clean-up, restoration and operations decommissioning expenses.[663] These proposals were enacted into law through the *RLA Act*,[664] which now allows for a tax deduction for *'environmental treatment and recycling assets'*[665] and *'environmental waste disposal assets'.*[666] This deduction applies only to fixed assets, with the amount and structure of the deductions differing in terms of the above two classes.[667] The deduction is also only triggered in the year of purchase,[668] and applies only in terms of the 'cost to taxpayer'.[669] It is not retrospective and cannot be applied to assets in duplication with any general tax deductions[670] already provided under the *Income Tax Act*.[671]

While not directly relating to RE, these provisions are nonetheless important in the broader context of fiscal support for environmental technologies, and does indicate a move towards the 'full-costing' of activities having a direct impact on the environment. The potential furthermore exists for such technologies to generate power, for example through biomass conversion, although this falls outside of the current discussion.

[661] *Supra* note 654.
[662] *Supra* note 637.
[663] Department: National Treasury, *Budget Tax Proposals 2009/2010* (2009), at 4.
[664] Act 35 of 2007, s36B.
[665] Act 35 of 2007, s37B(1).
[666] *Ibid*.
[667] Department: National Treasury, *Explanatory Memorandum to Revenue Law Amendment Bill, 2007* (2007), at 39.
[668] Act 35 of 2007, s37B(2).
[669] Act 35 of 2007, s37B(3).
[670] Act 35 of 2007, s37B(8).
[671] *Supra* note 654.

Non-renewable electricity levy

The non-renewable electricity levy is envisioned by the Government as the forerunner to an emissions-based energy tax,[672] and provides for the collection of a 2c/kWh levy on all non-renewable electricity sources.[673] The levy was first proposed in the 2008 *National Budget*,[674] but was delayed for a number of reasons and only became effective in July 2009.[675] This delay indicates a lack of commitment from the Government, as do the National Treasury's actions after the delay. With the delay, the National Treasury announced that the levy would be expanded to cover *'other large carbon producing enterprises'*.[676] This was not followed through; the result being that the original, narrower levy has been implemented, and late. Regardless, the levy is in force, with the raised funds aimed at supporting RE sources, energy efficiency, emissions reduction and related technology research.[677]

NERSA Renewable Energy Feed-in Tariff (REFIT) Guidelines (2009)

In 2009,[678] NERSA published the *REFIT Guidelines* with the objectives of creating an enabling environment for RE generation; establishing a guaranteed price for renewable electricity, for a fixed period of time; and putting renewable electricity generation on equal footing with conventional generation.[679] The guidelines also require that some 30 per cent of new energy generation be generated by IPPs.[680]

The REFIT is to be adjusted annually to account for inflation, and will be revised on a regular basis.[681] Notably, the provision for an annual reduction

[672] *Supra* note 308.
[673] National Treasury, *Budget Tax Proposals 2008/2009* (2008), at 10.
[674] Engineering News 'Levy on non-renewable electricity to become effective July 1.' Available at http://www.engineeringnews.co.za/article/levy-on-nonrenewable-electricity-to-become-effective-july-1-2009-06-25 [Accessed 10 December 2009].
[675] Minister of Finance, *Mid-Term Budget Policy Statement Speech* (21 October 2008), at 12.
[676] Department: National Treasury, *2008 Medium Term Budget Policy Statement* (2008), at 6.
[677] *Supra* note 308.
[678] *Supra* note 159.
[679] REFIT Guidelines (*supra* note 159), at 1-2.
[680] REFIT Guidelines (*supra* note 159), at 23.
[681] REFIT Guidelines (*supra* note 159), at 7.

in the tariff has been excluded from the final *REFIT Guidelines*,[682] as this has been acknowledged to have been based on a flawed assumption of lowered costs for RE generation.[683]

The REPA, a division of Eskom, has been designated as the sole power purchaser under the *REFIT Guidelines*, [684] which raises significant concerns over conflicting interests and the independence of the parastatal. This further entrenches Eskom's monopoly over the sector, and raises questions regarding the conflicting roles of power generator and purchaser.[685] In an attempt to regulate this situation, NERSA has imposed mandatory guidelines on REPA to purchase electricity from licensed generators.[686] The relationship between REPA and the IPP will also be regulated by a PPA,[687] the minimum duration of which is twenty years.[688] Although energy costs are not likely to come down in the medium term if competition is introduced into the sector, it would further enhance the effects of the *REFIT* and would undoubtedly have a positive influence on a number of important issues, including reducing prices for end consumers; increasing efficiency through the seeking of increased profits; and promoting innovation in the industry in order to increase market share. The *REFIT* offers a chance at increased job creation and economic growth though the requirement of 30 per cent of new energy generation from IPPs.[689] This, coupled with RE projects, will increase employment in the sector more than the building of conventional power infrastructure could.[690]

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[682] National Energy Regulator of South Africa, *Decision on REFIT Guidelines* (26 March 2009), at 4.
[683] *Ibid*.
[684] *Supra* note 330.
[685] See Engineering News 'Green energy gets shot in the arm with generous SA tariff regime.' Available at http://www.engineeringnews.co.za/article/green-energy-gets-shot-in-the-arm-with-generous-sa-tariff-regime-2009-03-31 [Accessed 20 September 2009].
[686] REFIT Guidelines (*supra* note 159), at 22-24.
[687] NERSA REFIT Decision (*supra* note 682), at 2.
[688] NERSA REFIT Decision (*supra* note 682), at 1.
[689] Department of Internal Relations and Cooperation 'Statement on Cabinet Meeting of 05 September 2007.' Available at http://www.dfa.gov.za/docs/2007/cabinet0906.htm [Accessed 21 September 2009].
[690] *Supra* note 299.

Environmental fiscal reform is largely powered by the National Treasury, as opposed to DWEA. This has been made possible by the preceding environmental legislative reforms,[691] and therefore these authorities need to collaborate to coordinate further reform and development in this sector better.

4.4 ENVIRONMENTAL LAWS

There are a number of environmental and land use planning laws of potential relevance to RE at the national, provincial and local levels.[692] This analysis of

[691] AR Paterson 'Considering Recent Developments in Environmental Fiscal Reform in South Africa' (2009) 16(2) *South African Journal of Environmental Law and Policy,* at 22.

[692] **Framework Laws:** Constitution of the Republic of South Africa Act 108 of 1997, National Environmental Management Act 107 of 1998 (NEMA), Environment Conservation Act 73 of 1989 (ECA), Promotion of Access to Information Act 2 of 2000 (PAIA), Promotion of Access to Justice Act 3 of 2000 (PAJA). **Land Use Planning:** Development Facilitation Act 67 of 1995, NEMA and Regulations, National Water Act 36 of 1998 (NWA), Marine Living Resources Act 18 of 1998 (MLRA), Minerals and Petroleum Resources Development Act 25 of 1999 (MPRDA), National Environmental Management: Protected Areas Act 57 of 2003, National Forests Act 84 of 1998 (NFA), World Heritage Conventions Act 49 of 1999, National Heritage Resources Act 25 of 1999 (NHRA), National Parks Act 57 of 1976, Maritime Zones Act 15 of 1994 (MZA), National Environmental Management: Integrated Coastal Management Act 24 of 2008, Less Formal Township Establishment Act 113 of 1991, Local Government Transition Act 209 of 1993, Local Government: Municipal Structures Act 32 of 2000, Physical Planning Act 125 of 1991, Provision of Land and Assistance Act 126 of 1998. **Provincial Land Use Planning Statutes and Ordinances:** Gauteng Planning and Development Act 5 of 2003, Land Administration Act (Gauteng) 11 of 1996, Division of Land Ordinance (Gauteng) 20 of 1986, Town-planning and Townships Ordinance 15 of 1986, Western Cape Planning and Development Act 7 of 1999, Land Administration Act (Western Cape) 6 of 1998, Land Use Planning Ordinance (Western Cape) 15 of 1985, Nature Conservation Board Act (Western Cape) 15 of 1998, Kwazulu-Natal Planning and Development Act 5 of 1998, Heritage Act (KwaZulu-Natal) 4 of 2008, KwazZulu-Natal Planning and Development Act 16 of 2008, Land Affairs Act (KwaZulu_Natal) 11 of 1992, Town Planning Ordinance 27 of 1949, Water Services Ordinance 27 of 1963, Land Administration Act (Free State) 1 of 1998, Protected Areas Act (Bophuthatswana) 24 of 1987, Northern Cape Planning and Development Act 7 of 1998, Land Administration Act (Northern Cape) 6 of 2002, Land Expropriation (Provincial Administration) (Northern Cape) Ordinance 9 of 1939, Land Disposal Act (Eastern Cape) 7 of 2000, Land Administration Act (North-West) 4 of 2001, Division of Land Ordinance (Transvaal) 20 of 1986, Town-planning and Townships Ordinance (Transvaal) 15 of 1986, Land Administration Act (Mpumalanga) 5 of 1998, Division of Land Ordinance (Mpumalanga) 20 of 1986, Town-planning and Townships Ordinance (Mpumalanga) 15 of 1986, Land Administration Act (Limpopo) 6 of 1999, Division of Land Ordinance 20 of 1986. **Resource Conservation:** NWA, Water Services Act 108 of 1997, MLRA, MPRDA, NHRA, National Environmental Management: Biodiversity Act 10 of 2004, NFA, Genetically Modified Organisms Act 15 of 1997, conservation of Agricultural Resources Act 43 of 1989 (CARA), National Veld and Forest Fire Act 101 of 1998. **Provincial Nature Conservation Statutes and Ordinances:** Mpumalanga Nature Conservation Act 10 of 1998, Limpopo Environmental Management Act 7 of 2003, Kwazulu-Natal Nature Conservation Management Act 9 of 1997, Nature Conservation Act (KwaZulu) 29 of 1992, Provincial Parks Board Act (Eastern Cape) 12 of 2003, Nature and Environmental Conservation Ordinance (Western Cape) 19 of 1974, Western Cape Nature Conservation Laws Amendment Act 3 of 2000, Nature Conservation Ordinance (Transvaal) 12 of 1983, Nature Conservation Ordinance (Orange Free State) 8 of

the environmental framework will, however, focus primarily on the provisions in South Africa's framework environmental law, *NEMA*[693] that are relevant to RE in four main respects: cooperative governance mechanisms (principles, plans and conflict mechanisms);[694] integrated environmental management (IEM) including the relevant EIA provisions;[695] environmental management (duty of care and emergency incidents);[696] and compliance and enforcement mechanisms.[697] *NEMA*, as the overarching environmental statue of South Africa, informs all other laws relating to the environment. including the specific *NEM Acts*[698] and the various other national, provincial and local government environmental statutes.[699] *NEMA*, as the framework law for the fulfilment of the constitutional right to a healthy environment,[700] has been described as aiming to:

> *'define overarching and general principles in terms of which sectoral-specific legislation is embedded, as well as to enhance the co-operative environmental governance amongst fragmented line ministries.'*[701]

Apart from providing a direct and enforceable environmental right to society; *NEMA* seeks to facilitate effective environmental management[702] and

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1969, Nature Conservation Ordinance (Gauteng)12 of 1983, Nature and Environmental Conservation (Northern Cape) 19 of 1974, Ordinance Northern Cape Nature Conservation Act 9 of 2009. **Waste Management and Pollution Control:** NWA, MZA, Marine Traffic Act 2 of 1981, Sea Shore Act 21 of 1935, Marine Pollution (Prevention of Pollution from Ships) Act 2 of 1986, ECA, Hazardous Substances Act 15 of 1973, National Environmental Management: Waste Act 59 of 2008, Atmospheric Pollution Prevention Act 54 of 1965, National Environmental Management: Air Quality Act 39 of 2004. **Provincial Pollution Control Statutes and Ordinances:** Prevention of Environmental Pollution Ordinance (Kwazulu-Natal) 21 of 1981. **General Relevance:** Deeds Registries Act 47 of 1937, Expropriation Act 63 of 1975, National Building Regulations and Building Standards Act 103 of 1997, Alienation of Land Act 68 of 1991, Land Administration Act 2 of 1995. Added to these would be the various local by-laws.

[693] *Supra* note 167.
[694] Act 107 of 1998, Chapter 3.
[695] Act 107 of 1998, Chapter 5.
[696] Act 107 of 1998, Chapter 7, Part 1.
[697] Act 107 of 1998, Chapter 7, Part 2.
[698] *Supra* note 510.
[699] *Supra* note 692.
[700] *Supra* note 417.
[701] W du Plessis and J Nel 'An evaluation of NEMA based on a generic framework for environmental framework legislation' (2001) 8 *South African Journal of Environmental Law and Policy* 1 at 1-2, in Michael Kidd *Environmental Law* (2008) at 31-32, note 72.
[702] *Supra* note 695.

cooperative environmental governance;[703] which are concurrent national and provincial duties under the *Constitution*.[704] In addition *NEMA* has both a direct and indirect impact on the energy sector. Directly, *NEMA*'s provisions on EIAs[705] require a thorough determination of the suitability of the designated land for the envisioned development,[706] as well as the determination of any other more environmentally suitable alternative to a proposed development.[707] Indirectly, *NEMA* promotes RE through its environmental and sustainable development principles, which are applicable to all developments in South Africa that have a significant effect on the environment.[708] These principles form the basis of the Act, as they *'apply throughout the Republic to the actions of all organs of state that may significantly affect the environment'*,[709] and, amongst other things, *'serve as the general framework within which environmental management and implementation plans must be formulated'.*[710] They are also meant to *'guide the interpretation, administration and implementation of the Act, and any other law concerned with the protection and management of the environment'*.[711]

The first of these principles states that environmental management must centre around the people and their needs,[712] while the second requires development to be *'socially, environmentally and economically sustainable'*.[713] Considerations required for such sustainable development are laid out in further principles, and include pollution and waste mitigation, equitability, a precautionary approach, and importantly, considerations of the depletion and effects of the use of non-renewable resources.[714] These considerations would apply directly to energy infrastructure development, as

[703] *Supra* note 694.
[704] Act 108 of 1997, Schedule 4.
[705] Act 107 of 1998, s23 and s24.
[706] Act 107 of 1998, s24(2)(b).
[707] Act 107 of 1998, s23(2)(b).
[708] Act 107 of 1998, s2(1).
[709] *Ibid*.
[710] Act 107 of 1998, s2(1)(b).
[711] Act 107 of 1998, s2(1)(e).
[712] Act 107 of 1998, s2(2).
[713] Act 107 of 1998, s2(3).
[714] Act 107 of 1998, s2(4)(a)(i)-(v).

well as the state organs and parastatals involved.[715] Other principles that apply to the energy sector include environmental justice, integration of management, equitable resource use, environmental responsibility, the '*polluter pays principle'*, and institutional coordination.[716]

It has been highlighted that these principles *'are not simply a wish list'*,[717] but, in fact, apply directly to the actions of organs of state which have a significant effect on the environment;[718] therefore, the *NEMA* principles have and will continue to have a major impact on the energy sector. Being a major polluting sector of the economy, as well as a sector dominated by state intervention and parastatal monopolisation, the energy sector is arguably more strongly governed by *NEMA* than other sectors, although the full effect of such has been excluded in other sectors.[719] Not only will these principles redefine the substantive content of future energy decisions, they also give society increased administrative law rights to energy-related decisions, given that the *NEMA* principles are prescribed as decision parameters for all decisions affecting the environment.[720] As RE generation increasingly presents more environmentally attractive options for power generation in South Africa, *NEMA* will place more pressure on the state to move away from coal power generation, as well as provide increased support for RE generation.

Cooperative governance mechanisms (principles, plans and conflict mechanisms)

As mentioned, *NEMA* provides several mechanisms for co-operative environmental governance, including environmental implementation plans

[715] *Supra* note 708.
[716] Act 107 of 1998, s2(4)(a)(vi)-(vii) and s2(4)(b).
[717] Michael Kidd *Environmental Law* (2008), at 34.
[718] *Supra* note 708. This has been supported and recognised by case law, namely in *MEC for Agriculture, Conservation, Environment & Land Affairs v Sasol Oil (Pty) Ltd* (Unreported SCA Case No. 368/04) and *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment & Land Affairs* 2004 (5) SA 124 (W).
[719] Mineral and Petroleum Resources Development Act 28 of 2002, s107(1).
[720] Act 107 of 1998, Chapter 1, s2(1)-(2).

(EIPs) and environmental management plans (EMPs).[721] Under *NEMA*, each province and any national departments exercising functions which may affect the environment, must prepare an EIP within one year of *NEMA* being promulgated, and every four years thereafter.[722] Similarly, national departments must, when exercising functions involving environmental management, prepare an EMP within one year of *NEMA* being promulgated, and every four years thereafter.[723] The purpose of these plans is to:

> *'co-ordinate and harmonise the environmental policies, plans, programmes and decisions of the various national departments that exercise functions that may affect the environment or are entrusted with powers and duties aimed at the achievement, promotion, and protection of a sustainable environment, and of provincial and local spheres of government.'*[724]

EIPs and EMPs are aimed at regulating the activities and functions of state organs when dealing with the environment:[725] every organ of state, including national,[726] provincial[727] and local authorities,[728] is obliged to exercise every function it may have, or that has been assigned or delegated to it, by or under any law,[729] and that may significantly affect the protection of the environment sustainability in accordance with the EIP or the EMP prepared, submitted and adopted by that organ of state.[730] Reporting requirements and other compliance enforcement provisions apply,[731] and the relevance of these plans to the energy sector is clear.

Despite the envisioned effect, a number of deficiencies in these plans and the surrounding regulations have been noted. Firstly, the timelines for the plans have not been adhered to, with the minister extending the deadlines for

[721] *Supra* note 694.
[722] Act 107 of 1998, s11(1).
[723] Act 107 of 1998, s11(2).
[724] Act 107 of 1998, s12(a).
[725] Act 107 of 1998, s12.
[726] Act 107 of 1998, Schedule 1.
[727] Act 107 of 1998, Schedule 2.
[728] Act 107 of 1998, s16(4).
[729] Such laws are listed under Act 107 of 1998, in Schedule 3.
[730] Act 107 of 1998, s16.
[731] *Ibid*.

submission beyond 12 months, something which is ultra vires through its effect of 'amending' the provisions of *NEMA*.[732] Secondly, while final plans are to be gazetted, the plans and documents for the activities and functions governed by the plans are not, resulting in the public not being easily able to ascertain whether the plans are ultimately being complied with.[733] This has implications for the already secretive energy sector, and provides yet another barrier to anyone trying to ascertain or challenge the actions of the Government or Eskom in terms of energy developments.[734] Finally, and most importantly for the energy sector, the DME has, for certain circumstances, been excluded from the definition of an organ of state exercising functions which '*may affect the environment*'.[735] Therefore, the DME (and thus now the DE) need not submit these plans for the areas of coal power generation.[736] The inclusion of the DE under these provisions would go far in increasing environmental regulation of both the energy and mining sectors.

Despite the above provisions, conflict between departments and other stakeholders is inevitable, given their different interests and imperfect communication. As a result, *NEMA* provides for conflict resolution in terms of environmental issues, and sets out procedures for conciliation, mediation and arbitration.[737] This is important, because of the overlapping nature of environmental protection with all economic sectors, and is perhaps more important given the uneasy relationship between DWEA and DE.[738] Besides providing specific avenues of dispute resolution, *NEMA* also provides procedures for the investigation into actions, as well as requests by both government officials and private parties to specific authorities for the above dispute resolution procedures.[739] As a whole, the provisions are comprehensive and clear, and provide for channels of dispute resolution

[732] GNR.4071 in *Government Gazette* 21647 dated 20 October 2000. The Minister extended the time for submissions beyond 12 months, despite s11(5) only allowing the Minister to extend the date of submission for periods not exceeding 12 months.
[733] Kidd (*supra* note 717), at 37.
[734] *Supra* note 600.
[735] *Supra* note 726.
[736] *Supra* note 722.
[737] Act 107 of 1998, Chapter 4.
[738] *Supra* note 258.
[739] Act 107 of 1998, s17(1)-(2).

other than court proceedings, which will likely go far in harmonising environmental actions by state organs, as well as streamline oversight and challenges to actions in this regard.[740] These provisions thus mandate increased cooperation and enable government authorities other than the DE to provide input and challenge energy sector decision without having to resort to expensive judicial procedures.

Integrated environmental management (IEM)

A key premise of *NEMA* is IEM, [741] that is, to '*promote the application of appropriate environmental tools in order to ensure the integrated environmental management activities.*'[742] The general objective of IEM is essentially to ensure that the consideration of the environment is integrated into all relevant decisions and developments in South Africa,[743] in line with the concept of sustainable development.[744] Tools used to achieve this objective include environmental management frameworks (EMFs) and EIAs.

Environmental Management Frameworks (EMFs)

EMFs are to be developed for certain key areas, with the purpose of promoting sustainability, securing environmental protection and promoting cooperative environmental governance.[745] The initiation of such EMFs

[740] *Supra* note 737.
[741] *Supra* note 695.
[742] Act 107 of 1998, s23(1).
[743] Act 107 of 1998, s23(2). *NEMA* seeks to '*promote the integration of the principles of environmental management… into all decisions which may have a significant effect on the environment; identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management…; ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them; ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment; ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in.'*
[744] Act 107 of 1998, s2(4).
[745] Act 107 of 1998, s24(5).

includes consultation and public participation,[746] and developments must include an assessment of the need for such a framework, the status quo of the environment, the desired state of such and the ways to reach this desired state.[747]

EMFs are broadly similar to the process of strategic environmental assessment (SEA),[748] and include a wide range of environmental management considerations, including the specific attributes of the environment within the given area, state of environmental management priorities, and the kinds of developments or land uses which may take place and which could have a significant impact on the environmental attributes,[749] including energy developments. EMFs that are adopted must be implemented and continuously monitored,[750] and must be taken into account by the competent authority when considering and environmental authorisation.[751]

Environmental Impact Assessments (EIAs)

To support IEM further, environmental authorisations are required for activities which are likely to impact negatively on the environment.[752] These activities are to be considered and authorised under the EIA process.[753] This process is largely set out in Regulations under *NEMA*,[754] of which the purpose is to:

> *'regulate the procedure and criteria as contemplated in Chapter 5 of the Act relating to the submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities in order to avoid detrimental*

[746] Act 107 of 1998, s3(2).
[747] Act 107 of 1998, s3(3).
[748] For further information on SEAs as applicable to South Africa, see Department of Environmental Affairs and Tourism, *Strategic Environmental Assessment, Integrated Environmental Management, Information Series 10* (2004).
[749] Act 107 of 1998, s4.
[750] Act 107 of 1998, s5(5).
[751] Act 107 of 1998, s5(3).
[752] Act 107 of 1998, s24.
[753] Act 107 of 1998, s24(1).
[754] GNR.543 in *Government Gazette* 33306 dated 18 June 2010.

> *impacts on the environment, or where it cannot be avoided, ensure mitigation and management of impacts to acceptable levels, and to optimise positive environmental impacts, and for matters pertaining thereto.'*[755]

The recent publication of new Regulations[756] has provided some useful additions in terms of environmental management and cooperative governance. For instance, where an application in terms of these Regulations must also be made in terms of other legislation, and where an agreement has been reached by the relevant government authorities in order to give effect to cooperative governance,[757] the application must be dealt with in accordance with such agreement.[758] Similarly, applications in terms of multiple activities of the same type at different locations within the jurisdiction of the competent authority may, at the written request of the applicant, be decided upon as one application.[759] However, the potential environmental impacts of each activity must be considered in terms of the location where the activity is to be undertaken.[760] This is specifically applicable to RE generation, which can be deployed at multiple sites, close to where it is required and on a small scale. This consolidated application process is an attempt at streamlining the application process, and is a way in which the capacity constraints of the environmental authorities may be partially addressed.

Before an assessment process may begin, the applicant must appoint an environmental assessment practitioner (EAP) at his own cost and subject to certain criteria and conditions.[761]

To simplify the EIA process, the Regulations provide for two categories of assessments, namely the basic assessment and the full assessment.[762] The

[755] GNR.543 of 18 June 2010 (*supra* note 754), Reg 2.
[756] *Supra* note 754.
[757] Act 107 of 1998, s24(4)(a)(i) and s24K-24L.
[758] GNR.543 of 18 June 2010 (*supra* note 754), Reg 14.
[759] *Ibid*.
[760] GNR.543 of 18 June 2010 (*supra* note 754), Reg 14(2).
[761] GNR.543 of 18 June 2010 (*supra* note 754), Reg 17. The general requirements for the EAP include being independent and objective, having expertise in EIAs, and complying with NEMA and its Regulations. Non-compliance with these and other requirements by the EAP can lead to the disqualification of such person through a number of ways.

minister has the discretion to subject a basic project to the full scoping and EIA process if he feels that it is necessary.[763] The Minister does not have discretion over activities that do not fall under the lists, with such activities requiring no assessment or approval. This is perhaps a cause for concern, despite the lists being quite comprehensive.[764] The minister, MEC or Minister of Mineral Resources may also, where appropriate, exempt an applicant from any provision of the Act or of the Regulations insofar as they relate to EIAs.[765]

All EIAs require public participation, on which the Regulations contain detailed provisions. The Regulations require the person conducting the public participation to take into account any other related regulations.[766] The Regulations also require notification of all interested and affected parties, and provides guidance for this notification.[767] Certain appeal procedures are provided,[768] although no such appeal[769] is possible if the minister or MEC took decisions in their capacity as the competent authority.[770] Further cooperative governance is provided for under the regulations, with the competent authorities being able to combine their decisions where such

[762] GNR.543 of 18 June 2010 (*supra* note 754), Reg 19-20. These are differentiated in terms of lists of activities - GNR.544 in *Government Gazette* 33306 dated 18 June 2010 contains a list of those activities that require a basic assessment, and GNR.545 in *Government Gazette* 33306 dated 18 June 2010 contains a list of those activities that require the full scoping and assessment.
[763] GNR.543 of 18 June 2010 (*supra* note 754), Reg 24(2)(d).
[764] See GNR.544 of 18 June 2010 (*supra* note 762) for the list of those activities that require a basic assessment, and GNR.545 of 18 June 2010 (*supra* note 762) for the list of those activities that require the full scoping and assessment.
[765] GNR.543 of 18 June 2010 (*supra* note 754), Reg 50.
[766] GNR.543 of 18 June 2010 (*supra* note 754), Reg 54(2).
[767] GNR.543 of 18 June 2010 (*supra* note 754), Reg 54(2)-(8). These are very specific in some regards, although the Regulations do allow for the person conducting the participation to deviate from such, with agreement from the competent authority.
[768] GNR.543 of 18 June 2010 (*supra* note 754), Reg 60-65. The Regulations on the appeal procedure are detailed and lengthy, with the Regulations governing notice of intention to appeal, technical requirement, time frames, and the process. The composition of the appeal panel is also regulated, and the Regulations require at least one member to be independent from the competent authorities.
[769] GNR.543 of 18 June 2010 (*supra* note 754), Reg 59 in terms of Act 107 of 1998, s43.
[770] GNR.543 of 18 June 2010 (*supra* note 754), Reg 58(2).

relate to the same matter.[771] All appeal decision must be in writing[772] and must provide reasons.[773]

The process for the basic assessment is simpler and less expensive, and is aimed at facilitating the speedy assessment of projects that are not likely to affect the environment very negatively. A prescribed application form and declaration of interest by the EAP are required to begin the process,[774] after which a public participation process must be initiated and a register of all comments and representations must be created and kept.[775] After considering these comments and representations, the EAP must compile a basic assessment report in terms of the Regulations;[776] then all registered interested and affected parties must be given an opportunity to make further representations and comments.[777] While developers could be prone to forcing developments into this category, it would not be possible to 'squash' building of power generating infrastructure in this way.

The assessment process under the full scoping and EIA list is more complicated, and consists of several steps including screening, scoping, EIA and public participation.[778] While the complexities of this process fall outside the scope of this dissertation, it is useful to note the steps and their potential effects on future energy developments. The process begins with certain notification and public participation requirements, after which the EAP conducts a scoping report.[779] Scoping comprises identifying relevant issues, impacts and alternatives relating to the proposed activity and the scoping report's contents are prescribed in the Regulations.[780] It is submitted that under possible alternatives, RE could become the preferable option to coal. If the scoping report is accepted, the EAP goes forward with the EIA, which

[771] GNR.543 of 18 June 2010 (*supra* note 754), Reg 66(1).
[772] GNR.543 of 18 June 2010 (*supra* note 754), Reg 66(3).
[773] GNR.543 of 18 June 2010 (*supra* note 754), Reg 66(4).
[774] GNR.543 of 18 June 2010 (*supra* note 754), Reg 21(1).
[775] GNR.543 of 18 June 2010 (*supra* note 754), Reg 21(2).
[776] GNR.543 of 18 June 2010 (*supra* note 754), Reg 22.
[777] GNR.543 of 18 June 2010 (*supra* note 754), Reg 21.
[778] GNR.543 of 18 June 2010 (*supra* note 754), Chapter 3, Part 3.
[779] GNR.543 of 18 June 2010 (*supra* note 754), Reg 27.
[780] GNR.543 of 18 June 2010 (*supra* note 754), Reg 28(1).

again includes full public participation.[781] The relevant authority may require that the process include certain specialised studies or processes.[782] In the case of energy developments, these could include air quality modelling.

The EAP must open and maintain a register of interested and affected parties who have responded to the above notification procedure, and organs of state with jurisdiction in the relevant area.[783] These registered parties are then able to comment on all submissions in terms of the application,[784] including the scoping and other reports.[785]Comments of interested and affected parties are to be recorded in their reports and submitted to the competent authority.[786]

The information requirements for the EIA are again set out in the Regulations.[787] The EIA must contain an environmental management programme, which deals with any environmental impacts the activity may have and must include information regarding timeframes, measures and responsible parties relating to such management.[788] Once the EIA has been accepted, the authority still has the option of granting or refusing the authorisation for the activity. Such authorisations also have prescribed contents and may contain conditions on the activity.[789]

Environmental authorisations may be amended in a number of ways on application to or on the initiative of the competent authority.[790] This is important, as activities and conditions may change which might necessitate conditions being placed on a development, or the withdrawal of authorisation

[781] GNR.543 of 18 June 2010 (*supra* note 754), Reg 31(1) .
[782] GNR.543 of 18 June 2010 (*supra* note 754), Reg 32(1). For detailed requirements of such reports see Reg 32(3).
[783] GNR.543 of 18 June 2010 (*supra* note 754), Reg 55.
[784] GNR.543 of 18 June 2010 (*supra* note 754), Reg 56(1).
[785] GNR.543 of 18 June 2010 (*supra* note 754), Reg 56(3). This is a detailed provision in terms of documents to be commented on, who may comment and the timeframes for such. Refer to GNR.543 of 18 June 2010 (*supra* note 754), Reg 56(1)-(8).
[786] GNR.543 of 18 June 2010 (*supra* note 754), Reg 57(1). This applies to comments from parties that are unable to write, for which a reasonable alternative must be provded 57(2)
[787] For detailed requirements of an EIA see GNR.543 of 18 June 2010 (*supra* note 754), Reg 31(2).
[788] GNR.543 of 18 June 2010 (*supra* note 754), Reg 33.
[789] GNR.543 of 18 June 2010 (*supra* note 754), Reg 35.
[790] GNR.543 of 18 June 2010 (*supra* note 754), Chapter 4.

altogether. Suspension of an authorisation is also possible.[791] This could mean that emissions reduction technology be mandated to be retrofitted to coal power stations. The Regulations create a similar situation in terms of EMPs.[792] In the case of both a basic and full assessment, appeal is possible against the decision of the competent authority.[793] Appeals would generally be to the minister and sometimes the MEC.

In its original provisions, *NEMA* did not prescribed a follow-up survey, although a suspicious developer may be required to undergo and submit an environmental audit.[794] This has since been addressed with the additional powers of environmental management inspectors, which possess numerous compliance monitoring and other powers[795] and which are able to be appointed by a number of authorities and governmental departments.[796] The inspectors may conduct routine inspections[797] and issue compliance notices in terms of applicable law or authorisations of the party in question who is believed not to be complying with such.[798] Failure to comply with such notices is an offence, and can result in a revocation of the relevant permit or authorisation, cost recovery, and a fine and/or imprisonment.[799] This is an important mechanism in terms of monitoring conventional power stations.

These EIA provisions are important in the context of RE for two reasons: public participation and environmental monitoring. EIAs allow stakeholders to participate in developments affecting the environment, and this could well lead to RE being advocated over conventional power generation as society grows more informed and educated. EIAs also allow the Government to review energy developments and apply its collective mind in terms of the

[791] GNR.543 of 18 June 2010 (*supra* note 754), Reg 47.
[792] GNR.543 of 18 June 2010 (*supra* note 754), Reg 38.
[793] GNR.543 of 18 June 2010 (*supra* note 754), Chapter 7.
[794] Act 107 of 1998 s24F.
[795] *Supra* note 697.
[796] Act 107 of 1998, s31B-31D. The designating authority must specify the inspectors' mandate, which may include the enforcement of NEMA, the specific NEM Acts, specific provisions of these, or a combination of such. The competent authority may only designate such powers over which it has control, and so provincial authorities will be able to provide less powers that national ones.
[797] Act 107 of 1998, s31K.
[798] Act 107 of 1998, s31L.
[799] Act 107 of 1998, s31N.

policy documents and laws contained in this dissertation. This too will likely lead to a preference of RE over conventional energy generation.

Environmental management (duty of care and emergency incidents)

In its provisions on environmental management, *NEMA* contains a number of obligations relating to environmental protection on the part of South African society, the first of which is the duty of care and remediation of environmental damage which requires:

> *'every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.'*[800]

This duty is retrospective in its effect, and also applies to the effects of an activity and not necessarily the activity itself.[801] It applies to the owner or controller of land and premises or a person who has a right of use of such land to which the environmental degradation applies.[802] If such person does not comply with the provision of the Act, the competent authority may direct such person to do so within a reasonable time[803] or undertake such measures and then apply to court to recover the costs of such from a number of parties, in proportion, other than the person who committed the act of pollution or degradation, including such person that derived benefit from the measures undertaken.[804] Should neither the responsible party, or the competent authority take these measures voluntarily or in terms of their mandate under the Act, '*any person may, after giving the Director-General or*

[800] Act 107 of 1998, s28(1)
[801] Act 107 of 1998, s28(1A)
[802] Act 107 of 1998, s28(2)-(3). Measures include investigation, education of employees, cessation, modification or control, containment, elimination and remedy of the degradation or pollution.
[803] Act 107 of 1998, s28(4).
[804] Act 107 of 1998, s28(7)-(11).

provincial head of department 30 days' notice, apply to a competent court for an order directing the Director-General or any provincial head of department to take any of the steps.'[805] These provisions would be directly applicable to coal power pollution, especially as ambient air quality standards are increased under the *National Environmental Management: Air Quality Act* (*NEMAQA*).[806] They are also likely to dissuade land owners from allowing environmentally degrading developments to take place on their property, which invariably include such developments as coal power plants and mining.

Included in duty of care, *NEMA* holds that '*no person may unlawfully and intentionally or negligently commit any act or omission which causes significant or is likely to cause significant pollution or degradation of the environment….or refuse to comply with a directive issued under this section*.'[807] Furthermore, *NEMA* creates an environmental vicarious liability for employers.[808]

Taking into account the stringent liability created under the above provisions, *NEMA* seeks to empower workers to be able to refuse to do environmentally hazardous work[809] in order to avoid such liability, subject to certain requirements.[810] Because *NEMA* creates potential liability for employees who undertake such work, this section seeks to assist them in avoiding such liability. The provision states:

> *'Notwithstanding the provisions of any other law, no person is civilly or criminally liable or may be dismissed, disciplined, prejudiced or harassed on account of having refused to perform any work if the person in good faith and reasonably believed at the time of the refusal that the performance of the work would result in an imminent and serious threat to the environment.'*[811]

[805] Act 107 of 1998, s28(12)-(13).
[806] Act 39 of 2004.
[807] Act 107 of 1998, s28(14).
[808] Act 107 of 1998, s34(5)-(9).
[809] Act 107 of 1998, s29.
[810] Act 107 of 1998, s29(5).
[811] Act 107 of 1998, s29(1).

The above provisions can be seen as an attempt at proactively protecting the environment. However, this may not always be possible, and therefore *NEMA* contains detailed provisions relating to the control of emergency incidents,[812] including all unexpected occurrences that would lead to serious public danger, pollution or environmental degradation, whether immediate or delayed.[813] As above, the responsible person includes those responsible, or the owner or controller of the hazardous substances involved. [814]

Incidents must immediately be reported to a number of parties, including all parties which are likely to be affected.[815] A further report is required after all reasonable clean-up actions have been taken.[816] If the responsible parties do not take action, the competent authority may direct them to do so, or may undertake the required actions itself and recover costs from such parties.[817] While not always the case, these provisions would generally apply to the dirtier forms of energy generation in South Africa as opposed to RE. This should increase the cost of coal power energy through generators having to take increased precautions against environmental degradation, bringing the cost of such electricity more in line with 'true costing' as promoted by *NEMA*.[818]

To strengthen the above provisions, and in an effort to foster greater transparency, the section relating to access to environmental information begins with a protectionary provision, which seeks to protect whistle-blowers from civil and criminal liability, and from dismissal, discipline, prejudice or harassment on account of that person's bona fide disclosure of information which was believed to be evidence of environmental risk.[819] *NEMA* lists specific entities to whom such information must be disclosed to secure this protection, including certain government organs and the media, given certain

[812] Act 107 of 1998, s30.
[813] Act 107 of 1998, s30(1)(a).
[814] Act 107 of 1998, s30(1)(b).
[815] Act 107 of 1998, s30(3).
[816] Act 107 of 1998, s30(4)-(5).
[817] Act 107 of 1998, s30(6)-(10).
[818] *Supra* note 486.
[819] Act 107 of 1998, s31(4).

considerations.[820] The discloser need not have exhausted other avenues,[821] and no person may seek to influence someone from exercising this right.[822] These provisions are also applicable to energy generation, and this duty of care and protection of whistle-blowers are likely to prove useful in terms of uncovering and preventing serious environmental pollution in terms of energy emissions and pollution.

Compliance and enforcement mechanisms

The Regulations provide for a number of instances whereby the competent authority can request written explanations and other reports in instances where a person holding an authorisation is reasonably suspected of contravention or non-compliance with the conditions of the authorisation.[823] The authority may require an environment audit[824] or even the appointment of an independent auditor[825] at the suspected person's own cost.[826] It is important that the *NEMA* provisions state that certain contraventions are criminal offences, [827] warranting harsh penalties. Apart from the offence provisions contained in *NEMA*, the Regulations provide for offences in terms of a number of failures to comply with the Regulations; [828] some such offences carrying a maximum penalty of R1 million or one year imprisonment, or both. [829]

NEMA enables any person or group of persons to seek appropriate relief in respect of any breach of threatened breach of any provision of the Act,

[820] Act 107 of 1998, s31(5).
[821] Act 107 of 1998, s31(6).
[822] Act 107 of 1998, s31(7)-(8).
[823] GNR.543 of 18 June 2010 (*supra* note 754), Reg 69. Such instances include suspicion of general contravention in terms of Chapter 5 of the Regulations or suspicion of environmental harm.
[824] GNR.543 of 18 June 2010 (*supra* note 754), Reg 69(2)-(8). Every holder of an environmental authorisation must conduct monitoring and performance assessments of the EIA or EMP as prescribed through the conditions of the authorization.
[825] GNR.543 of 18 June 2010 (*supra* note 754), Reg 69(4).
[826] GNR.543 of 18 June 2010 (*supra* note 754), Reg 69(5)-(6). If the party fails to do so, the authority may appoint such a person and recover the costs.
[827] *Supra* note 794.
[828] GNR.543 of 18 June 2010 (*supra* note 754), Reg 71(1). These include submitting incorrect information or continuing with an activity in terms of a suspended or revoked authorisation.
[829] GNR.543 of 18 June 2010 (*supra* note 754), Reg 71(2).

including the *NEMA* principles and specific environmental management acts or other relevant law. [830] Similar provisions relating to private prosecution apply, allowing for the instigation of criminal proceedings by members of the public in terms of certain societal and environmental interests. [831] Both of these are more likely in terms of coal power generation, thus dis-incentivising such activities.

If a party is convicted of a *NEMA* offence that appears to have resulted in damage to organs of state or individuals, the court may in the same proceeding inquire summarily and without pleadings into the amount of the loss or damage so caused.[832] Similar provisions apply to any undue gain resulting from an offence in terms of *NEMA*, as well as costs of the prosecutor.[833] Amendments to the Act have created additional, specific offences in terms of the environment, including: offences related to environmental management inspectors,[834] awarding of part of a recovered fine to an informant,[835] a cancellation of permits by the courts,[836] certain forfeitures,[837] and various other provisions.838 Magistrate's courts are now able to impose penalties in terms of *NEMA* and the other specific *NEM Acts*.[839] This could potentially result in environmental degradation, including pollution through coal power generation resulting in both criminal and civil actions, at great expense to the electricity generator.

4.5 CONCLUSION

Despite numerous recent legislative promulgations and amendments,[840] and with the exception of a few legal provisions, much of the existing law follows a 'business as usual' approach to the regulation and future of the energy

[830] Act 107 of 1998, s32(1).
[831] Act 107 of 1998, s33.
[832] Act 107 of 1998, s34(1)-(3).
[833] Act 107 of 1998, s34(1)-(4).
[834] Act 107 of 1998, s34A inserted by Act 46 of 2003.
[835] Act 107 of 1998, s34B inserted by Act 46 of 2003.
[836] Act 107 of 1998, s34C inserted by Act 46 of 2003.
[837] Act 107 of 1998, s34D inserted by Act 46 of 2003.
[838] Act 107 of 1998, s34E-34G.
[839] Act 107 of 1998, s34H inserted by Act 14 of 2009.
[840] This chapter (chapter 4) highlights these promulgations and amendments as they pertain to renewable energy.

sector.[841] While a stronger emphasis has been placed on sustainability and RE in more recent laws,[842] the framework as a whole falls short of the dramatic change required to induce the large-scale development and implementation of RE in South Africa effectively. Apart from content, the framework also suffers from a lack of buy-in and enforcement, as discussed in chapter 3 of this dissertation. Two things are clear: the South African Government understands broadly that RE will be important and that the environment must gain prominence in future decision-making. However, the Government seems not to understand the urgency of these matters, and seems unwilling to make the crucial decisions required to achieve these noble and necessary goals. This may be due to a number of factors, including misinformation, politics and certain vested interests.[843] Regardless of the reasons, RE will not receive the required momentum until there is full commitment from the Government in terms of practicable goals and targets, as is seen in jurisdictions where RE is now playing a vital role in terms of the environmental, social and economic growth. Despite this lack of direction, the Government has sought to implement certain measures in terms of a workable legislative framework for RE.

Furthermore, the fragmented regulation of the energy sector, the monopoly of Eskom and the lack of cooperation between government authorities all contribute to a support framework that is strong in vision, but weak in implementation. This can be seen in the way in which the current legal framework does not fully integrate certain environmental and socio-economic considerations into the regulation of the sector. This has resulted in a lack of integration of the full-costing and 'polluter pays' principles into the framework, and the socio-economic growth potential of RE being overlooked.

In all of the above instances, transparency and public participation could be used to address certain issues. However, the traditionally secretive energy

[841] This can be seen in the lack of enforceable renewable energy generation targets, Eskom's continued monopoly of the sector as well as its control over the IPP and PPA situation.
[842] The Electricity Regulation Act 4 of 2006 and National Energy Act 34 of 2008 both contain references to renewable energy in their provisions.
[843] *Supra* note 47.

sector is far from transparent, with indications of intentional blocking of public participation, as well as the rubber-stamping of certain decisions.[844] Further legislative reform is required in this regard.

Finally, while much progress has been seen on the issue of MBIs, developments have not been without difficulties. Compared to the initial proposals, some of the MBIs have been substantially watered down, or have been delayed. Most notably the *REFIT* and PPAs.[845] The National Treasury has put forward numerous tax amendments aimed at supporting RE in South Africa, however, with more developments set to come.[846] Thus, while much still needs to be done, much has already been done, with positive signs for the future. As previously mentioned, the lack of competitiveness of RE is largely a result of certain market failures which cannot be addressed through traditional command and control measures.[847] With stronger political awareness and buy-in, government initiatives could be better focused, resulting in greater progress in terms of RE generation in South Africa.

5. DISCERNING BEST PRACTICE: THE USA EXPERIENCE

The United States is currently on the cusp of introducing dedicated clean energy legislation.[848] Being some of the world's most contemporary legislation of this nature, it would appear prudent to scrutinise this legislation in order to distil any possible lessons for South Africa. The *ACES Act*[849] is set out under five general headings: clean energy, energy efficiency, reducing global warming pollution, transitioning to a clean energy economy and agricultural and forestry-related offsets.[850] It contains a number of new

[844] *Supra note* 418.
[845] *Supra* note 159.
[846] *Supra* note 260.
[847] Environmental White Paper (*supra* note 166), at 81.
[848] United States Congress 'OpenCongress: for the 111th United States Congress.' Available at http://www.opencongress.org/bill/111-h2454/show [Accessed 2 January 2010].
[849] *Supra* note 4.
[850] Pew Center on Global Climate Change, *At a Glance: American Clean Energy and Security Act of 2009* (2009), at 1.

provisions relating to these areas, as well as various amendments to various other Acts[851] dealing with one or more of these specific topics.

The *ACES Act* is not the first environmental statute to be promulgated in the United States, nor is it the first statute specifically dealing with emissions reduction or clean energy generation in that country. Laws on these issues are numerous and lengthy, and for a country not a party to the *UNFCCC*, the United States has substantially more legislation on these issues than South Africa.[852] In fact, some of the first environmental laws in the world were promulgated in the United States.[853]

The unique content and structure of United States legislation as compared to South African legislation is also worth mentioning. United States legislation can be seen to be a combination of South African policy and legislative content, all of which is enforceable. This means that, compared to South African law, United States laws are far more detailed, often running into hundreds or even thousands of pages. The provisions of the *ACES Act* will be compared and contrasted with those reflected in the current South African regime of relevance to RE, in order to identify potential gaps and problems in the South African regime. The *ACES Act* was selected for comparison for the three reasons mentioned in Chapter 1,[854] which include its recency, structure and coverage of the foundational issues discussed in this dissertation

5.1. COMMITMENT TO RE AND ENERGY EFFICIENCY

As will be seen, the United States Government has taken the initial steps to ensure the survival and growth of the RE sector, but seeks long-term market support and action in order to ensure its sustainability, thus providing for a stronger buy-in by industry and society than could be achieved through the approach of the South African Government.

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[851] *Supra* note 36.
[852] Supra note 37.
[853] The USA promulgated the Refuse Act of 1899 (33 U.S.C.) in order to prevent dumping and polluting of its waterways.
[854] See chapter 1 of this dissertation, at 5.

The *ACES Act* begins with a definition of RE[855] similar to that contained in the *NE Act*,[856] which also excludes nuclear and 'clean coal' technology. The *ACES Act* then imposes targets for RE generation, which are to be increased over a 27 year period from six per cent to a final 20 per cent, after which the framework will be re-evaluated.[857] This is to be imposed through generation quotas on electricity generators which generate power in excess of a certain threshold.[858]Power generation under these quotas must come from certain listed sources, which exclude existing hydropower, nuclear power and carbon capture and storage.[859] While this is an attempt at promoting true RE growth, the US Environmental Protection Agency (EPA) estimates a decrease of consumer energy costs provided the revenue from the cap and trade system is channelled back into society.[860]

The RE targets and quotas are implemented and supported by an ETS.[861] Qualifying electricity generators are to be compelled to provide certificates for their RE quotas,[862] on penalty of a fine three times greater than the cost of the required certificates.[863] This combination of a regulatory and market-based approach is submitted to be an effective and proactive way of stimulating RE generation, and an approach well suited to the South African energy sector; where competition and the free-market approach cannot be relied on to develop on its own. Such an approach could well be used to compel Eskom to generate RE itself, or support and purchase certificates or RE from IPPs. Increasing the quotas until 2020 also somewhat negates the effect of minimum industry compliance; as such efforts would have to increase annually.[864] While there are likely to be challenges in the implementation of this Federal ETS, it is clearly a move towards real and measurable support for RE generation in the United States, and is altogether

[855] HR 2454 (2009), s101(a)(17).
[856] *Supra* note 28.
[857] HR 2454 (2009), s101(d)(1).
[858] HR 2454 (2009), s101(d)(2).
[859] HR 2454 (2009), s101(a)(19)(A)-(C).
[860] US Environmental Protection Authority, *EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress* (2009), at 4.
[861] HR 2454 (2009), s101(e)(9).
[862] HR 2454 (2009), s101(b)(1)-(2).
[863] HR 2454 (2009), s101(i)(1).
[864] HR 2454 (2009), s101(d)(2).

different from the reactive and as yet unmet RE goals and targets of the South African Government.[865] This move towards greater support for RE is strengthened by the *ACES Act's* mandate on the federal and state governments to facilitate and carry out proper long-term regional planning, by requiring the consideration of RE when planning for transmission capabilities and facilities.[866] Thus, while the United States electricity sector has been largely privatised,[867] the *ACES Act* nonetheless aims to create an integrated national electricity grid, based on the principles of sustainability and equitable resource use.[868]

There are some similarities between the legal frameworks of these two countries, including the call for energy efficiency labelling schemes for appliances, so as to convey information about their electricity consumption and carbon footprint to consumers. In the United States this initiative is led by the Government under the Product Carbon Disclosure Program (PCDP),[869] while in South Africa it is the private sector that has championed this initiative, with the National Business Initiative (NBI) and the Johannesburg Stock Exchange (JSE) implementing a similar Carbon Disclosure Project (CDP).[870] The major difference between the United States and South African programmes is that the United States CDP has the force of law, while the JSE has to rely on its influence over listed companies, despite the vision in the *Energy White Paper* of government support in this regard.[871]

[865] *Supra* note 92.
[866] HR 2454 (2009), s151(a)(1).
[867] John Kokwa *Restructuring the U.S. Electric Power Sector: A Review of Recent Studies* (2006), at 1-4.
[868] HR 2454 (2009), s216A(a)(1).
[869] HR 2454 (2009), s274.
[870] This is being done as part of a global collaborative initiative, and is being spear-headed by the NBI. See Carbon Disclosure Project 'What we do.' Available at https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx [Accessed 7 January 2010].
[871] RE White Paper (*supra* note 2), at 15.

5.2. ENVIRONMENT PROTECTION

The *ACES Act* does not only deal with clean energy generation, but also seeks to implement an environmental policy on the federal level.[872] This will have a direct impact on energy generation through a capping of emissions and the establishment of certain environmental targets. The overarching framework which is to be used to implement these RE and environmental goals is an ETS.[873] In this regard, seven gases[874] are regulated by the *ACES Act*, in line with the *Kyoto Protocol*.[875] Although the United States is not yet a signatory of the Protocol, the *ACES Act*, unlike *NEMAQA*,[876] does cover CO_2. The *ACES Act* also covers certain entities and imported products in terms of their emissions, which is again in contrast to *NEMAQA*, which has no provisions to deal with the so-called 'exportation of emissions' to other countries.[877]

Another major difference between the two countries is in dealing with the issue of water use during energy generation. The *ACES Act* establishes a water awareness program,[878] and provides for water-efficient state energy procurement policies.[879] While water is a consideration in South African energy planning,[880] it is not an area of focus as for the United States; with no similar programmes being provided for. This is a significant oversight for a country as arid as South Africa.

[872] HR 2454 (2009), TITLE VII – GLOBAL WARMING POLLUTION REDUCTION PROGRAM.
[873] *Supra* note 861.
[874] HR 2454 (2009), s712(b)(1).
[875] *Supra* note 3.
[876] Act 39 of 2004, Schedule 2.
[877] HR 2454 (2009), s768(2).
[878] HR 2454 (2009), s215.
[879] *Supra* note 204.
[880] Master Plan (*supra* note 74), at 39.

5.3. RENEWABLE ENERGY AS A DRIVER FOR SOCIAL DEVELOPMENT, JOB CREATION AND SUSTAINABLE ECONOMIC GROWTH

The *ACES Act* envisions RE as a driver for socio-economic growth, and not simply as a way to reduce emissions. [881] As such, the *ACES Act* contains a number of provisions that promote and support a sustainable and competitive RE sector in terms of manufacturing and power generation. The commercialisation of renewable and clean energy technology is supported by the Federal Government through guarantees[882] and the establishment of the Clean Technology Business Competition Grant Program,[883] which sets aside millions of Dollars for '*accelerating the development of the US clean technology industry and green jobs'.*[884] While the market is again used as the main driver in this regard, the funding system carries a strong social undertone in that job creation and social development are top priorities.[885] Much of South Africa's policy and law is aimed at redressing past social injustices, with energy law being no exception.[886] While this is put forward as a driver of the energy sector,[887] it is applied without regard to the role which the environment plays in social upliftment, or the job creation potential of RE.[888] Current policy instead favours a continued reliance of coal in order to achieve short-term, but ultimately unsustainable, social upliftment through energy provision. In this respect the policymakers and legislators of South Africa could learn much from their United States counterparts and their integration of these three pillars of sustainable development.

Another aspect of the *ACES Act* which holds important lessons for South Africa is its support for local government and communities in terms of EE and RE generation.[889] This support is predominantly financial, but also includes,

[881] HR 2454 (2009), Preamble.
[882] HR 2454 (2009), s129.
[883] HR 2454 (2009), s196.
[884] HR 2454 (2009), s196(a).
[885] HR 2454 (2009), Subtitle B—Green Jobs and Worker Transition.
[886] This is acknowledged in the Preamble of the National Energy Act 34 of 2008.
[887] *Supra* note 81.
[888] *Supra* note 299.
[889] HR 2454 (2009), s262.

for example, programmes aimed at low income communities,[890] which highlights the social undertone of this Act, from a country considered to be the pinnacle of capitalism. To date, such initiatives have been rare in South Africa, with perhaps only a failed solar heater program to show.[891] Instead, the South African Government has chosen to increase electricity quotas to the poor,[892] with the cost falling to the rest of society. However, these costs have once again fallen on the poor, as unsustainable demand and insufficient supply contribute to the electricity shortages of South Africa,[893] thus exacerbating the adverse health effects of fuelwood energy.[894] The South African Government has also chosen to support coal and nuclear power generation,[895] both of which provide substantially fewer jobs and create substantially more environmental degradation than wind and solar power technologies.[896]

5.4. GOVERNANCE AND INSTITUTIONS

The measures under the *ACES Act* are largely to be carried out at the state and local levels; the Federal Government being responsible for establishing the framework. In this way, implementation is decentralised, with local authorities being given the capacity and resources to address challenges in a manner that is suitable to the specific regions of the United States. The *ACES Act's* powers are further decentralised by States being allowed to enact their own feed-in tariffs[897] in order to ensure the viability of RE generation. This is strengthened by the provision for State Energy and

[890] HR 2454 (2009), s263-264.
[891] Engineering News 'Framework in place for big solar-water heater vision, but funding needs firming.' Available at http://www.engineeringnews.co.za/article/framework-in-place-for-big-solar-water-heater-vision-but-funding-needs-firming-2009-11-20 [Accessed 4 January 2010].
[892] Mail & Guardian Online 'Eskom to give the poor more free power.' Available at http://www.mg.co.za/article/2009-10-06-eskom-to-give-the-poor-more-free-power [Accessed 7 January 2010].
[893] *Supra* note 408.
[894] *Supra* note 289.
[895] Eskom 'New Build Programme.' Available at http://www.eskom.co.za/live/content.php?Item_ID=5981 [Accessed 4 January 2010]. With the Government being the sole shareholder in Eskom, this is reflected in that company's New Build Programme.
[896] *Supra* note 299.
[897] HR 2454 (2009), s102.

Environment Development Funds (SEED Accounts),[898] which are to be used at state level to manage and maximise the value of the emissions allowances, energy efficiency and RE generation projects.[899] These elements, as well as various other initiatives and RE technology development,[900] are to be funded through these accounts, with the funds being allocated amongst the States by the Federal Government in terms of the provisions of the *ACES Act*.[901]

The United States electricity sector is privatised and comprises many independent generators.[902] While there were some serious problems during the privatisation of the energy sector, it is now in an ideal position to be regulated with MBIs, due to the strong levels of competition present in the system.[903] However, this decentralised industry requires something more than a 'one size fits all' approach to ensure effective regulation. This was recognised by the drafters of the *ACES Act*, who have sought to empower and capacitate state and local authorities to be able to regulate their respective utilities. This trust by the Federal Government, as well as its provision of resources to these other spheres of government, is likely to increase the levels of buy-in at lower levels.

The approach followed in the United States of supporting RE generation indicates a level of governance and political buy-in that is not yet present in South Africa. While no system is flawless, the various levels of accountability at the private, local, state and federal levels present a more comprehensive and transparent governance system than the one existing between the DE, NERSA, Eskom and South African society. This also highlights another major difference between the two systems, namely the monopoly held by Eskom over the electricity value chain, as opposed to the competition-based electricity sector of the United States. In the United States strong emphasis is placed on the markets' determination of the 'best cost' approach to RE

[898] HR 2454 (2009), s131.
[899] HR 2454 (2009), s131(c).
[900] HR 2454 (2009), s172(b).
[901] HR 2454 (2009), s131(e).
[902] Kokwa (*supra* note 867), at 1-4.
[903] For a discussion on these problems see generally: Kokwa (*supra* note 867).

generation, which is likely to ensure maximum efficiency of natural resource use, provided the process for awarding such resources remains transparent and fair.

5.5. PUBLIC PARTICIPATION, EDUCATION AND ACCESS TO INFORMATION

In an effort to harness the power of the American consumer, the *ACES Act* creates a number of community awareness and assistance programmes,[904] establishes a consumer interest watchdog[905] and provides for research into the behaviour of the consumer.[906] By thus seeking to understand how best to implement energy conservation and clean energy measures, initiatives can be shaped around society rather than trying to shape society around the initiatives, as happens in South Africa in terms of the 'rubber-stamping' of environmental and energy decisions despite public outcry.[907]

While these provisions on awareness raising and public participation are limited, they are practical and do have the force of law, and are built on a very active society, where individuals and interest groups are easily able to challenge government actions in court. These provisions are therefore meant to compliment the litigious United States society, and are directed at understanding that society rather than challenging the Government. The situation in South Africa is very different. The country does not have on overly litigious society, nor does it have a large number of well-capacitated non-governmental organisations (NGOs). Also, while *PAIA*[908] and *NEMA*[909] do provide for public participation, it is often not properly implemented; with developments frequently being 'rubber-stamped' despite a lack of proper community involvement.[910] No effort has been made to understand or

[904] HR 2454 (2009), 285.
[905] HR 2454 (2009), 198.
[906] HR 2454 (2009), 265.
[907] *Supra* note 418.
[908] *Supra* note 395.
[909] *Supra* note 167.
[910] *Supra* note 418.

'partner' with society in order to support RE; the overall result being a lack of understanding of the effects of renewable and coal energy on society.

5.6. MARKET-BASED INSTRUMENTS

While RE targets are set by the *ACES Act*, the method of compliance is left to industry. This is done through the allocation of 'emissions allowances'[911] to energy generators, who then have to reduce their emissions to the prescribed levels through RE generation or else buy allowances from firms which have been able to exceed the required reductions. This cap and trade system allows industry to determine the 'least cost solution' for emissions reduction on the domestic level, while at the same time creating a commodity market to incentivise environmental action. This is in stark contrast to the energy sector in South Africa, where a central authority decides on the financial support for RE production and emissions reduction.[912] The South African system has not been successful thus far, with the delay of the *REFIT*, no successful PPAs being concluded,[913] and the strong likelihood of South Africa not meeting its RE targets by 2013.[914] Current environmental law[915] also does not regulate CO_2 emissions. It remains to be seen whether the United States approach proves successful, but there are currently a number of successful regional ETS systems in that country.[916]

While there are numerous other fiscal instruments in United States tax law which impact on RE,[917] the *ACES Act* introduces a number of new MBIs, apart from its ETS. These include incentives for research,[918] the installation

[911] HR 2454 (2009), s101(e).
[912] *Supra* note 330. While NERSA regulates the energy sector and REFIT, Eskom ultimately has the power in awarding PPAs.
[913] *Supra* note 283.
[914] *Supra* note 92.
[915] *Supra* note 876.
[916] These include the Regional Greenhouse Gas Initiative, the Western Climate Initiative and the Midwest Regional Greenhouse Gas Reduction Accord. For detailed information on these schemes see Arnuad Brohe et al *Carbon Markets: An International Business Guide* (2009), at 183-192.
[917] For a deeper analysis see generally Mona Hymel 'The United States' Experience with Energy-Based Tax Incentives: The Evidence Supporting Tax Incentives for Renewable Energy' (2007) 38 2 Loyola *University Chicago Law Journal* 43.
[918] HR 2454 (2009), Subtitle H – Energy and Efficiency Centers and Research.

of EE technologies,[919] and RE tariffs.[920] Virtually the entire Act is aimed at emissions reduction and environmental protection through fiscal means. While the United States approach is predominantly a result of the nature of the Federal Government and that society as a whole, South Africa may do well to apply a similar logic and shift its focus from revenue-raising MBIs[921] to expense-side and market-driven instruments.

5.7. CONCLUSION

The *ACES Act*[922] represents an approach to RE support that goes beyond mere regulation and centralised enforcement in seeking not only social buy-in but also social and private sector involvement and innovation, none of which is at the long-term cost of Government. The commitments of the *ACES Act* are greater than those of South Africa, and are arguably more onerous for a county which still suffers from sluggish economic growth as a result of the harsh economic crisis.[923] It should also be noted that, while these targets are lower than those in international commitments, the United States has finally taken up its leadership role in the global community with regards to RE – a position that South Africa is arguably morally obliged to take up on the African continent.

In terms of past responsibility for emissions, South Africa is certainly on par with the United States and other developed countries in terms of its share of emissions in its continent, and thus the excuse of not being an *Annex 1* country[924] does not hold much water in a situation that will ultimately affect the world as a whole, and Africa in particular. In this regard, the United States appears to view RE more strongly as an opportunity for socio-economic growth than South Africa does.

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[919] Many provisions are dedicated to the installation of energy efficiency technology throughout the economy, with plans laid out for the various sub-sectors. HR 2454 (2009), TITLE II: ENERGY EFFICIENCY.
[920] *Supra* note 897.
[921] *Supra* note 453.
[922] *Supra* note 4.
[923] United States Department of the Treasury 'Office of Economic Policy.' Available at http://www.ustreas.gov/offices/economic-policy/monitoring_economies.shtml [Accessed 14 January 2010].
[924] 1997 (1998) 37 ILM 22, Annexure 1.

While governance is a global issue, the United States' decentralised approach is more likely to result in transparency and governmental effectiveness. Similarly, the approach to public participation in the *ACES Act* is preferable to that of South African law, although the active society and NGO base of the United States does place it in a favourable position.

Finally, the extensive use of MBIs in support of RE in the United States is significant from a global perspective. As a world leader on many fronts, this move towards the use of MBIs and an ETS is likely to cause other countries to follow suit. This is important for South Africa to note, as a globally integrated ETS is likely to create numerous socio-economic opportunities, and if South Africa does not have an ETS of its own it will fail to take advantage of these developments. It must be emphasised that the development of a successful ETS is a long-term process,[925] and cannot be instantaneously created when other countries integrate in this regard.

6. CONCLUSION

When compared to the United States,[926] South Africa's legislative framework fairs comparatively favourably. Indeed, all of the seven elements compared above are covered by South African policy and law; much of which is on par with international best practices. Rather than a lack of substantive content, the South African framework suffers from a number of implementation and buy-in deficiencies, which see its comprehensiveness reduced to political rhetoric rather than being a useful roadmap for the future of the energy sector. When comparing the current policy and legislative frameworks,[927] the latter represents a 'watered-down' version of the former, to the point of being vague and ineffective. With no binding RE targets and almost totally unfettered executive discretion in terms of RE development and deployment, it is little wonder that RE in South Africa is virtually non-existent despite

[925] Pew Center on Climate Change 'Emissions Trading in the European Union.' Available at http://www.pewclimate.org/EU-ETS-history Accessed 10 December 2009]. The ETS was formally launched in 2005, and is continuously evolving.
[926] *Supra* note 4.
[927] *Supra* note 28.

growing international developments. South Africa would do well to adopt the United States' 'can do' attitude in terms of legislative and policy development and implementation.

While it is acknowledged that South Africa cannot mobilise the same amount of resources as the United States, it is that country's mindset that is most needed: given that RE compares reasonably favourably with conventional power sources on all fronts, including cost if worked on a full-costing basis, RE is seen by the United States Government and industry as an opportunity rather than an obligation. This is not reflected in the current South African framework because of the lack of understanding within the Government, industry and society as a whole. With environmental law being a relatively new field of study, comparatively little research seems to have been done on the topic of sustainable energy law; with only a few knowledgeable individuals having a clear grasp on the opportunities and challenges. Furthermore, with the lack of transparency surrounding Eskom's tariff applications,[928] questions have been raised regarding the strength of political will in this regard, with misinformation often serving vested interests[929] at the expense of a truly workable RE framework. This is reinforced by a clear lack of ambition by the Government on this matter: minimal RE generation targets are being set in policy, there are no existing binding legislative targets, and an impending policy target reduction exists within the current framework. This is all despite key industry players believing that considerably stronger RE commitments are achievable.[930] Such a clear lack of ambition has led to almost unfettered executive discretion in the areas of RE policy and implementation, resulting in a situation whereby the DE has only to show that it is doing something in order to fulfil its mandate, and not that what it is doing is achieving something necessary and effective. This is a moot point, given that under the current system, accountability is virtually non-existent, as

[928] Mail & Guardian 'SACCI expresses concern over Eskom price hike.' Available at http://www.mg.co.za/article/2009-12-21-sacci-expresses-concern-over-eskom-price-hike [Accessed 4 January 2010].
[929] *Supra* note 47.
[930] WWF, *Cheaper electricity with renewable energy: Costing a 15% target for 2020 for South Africa* (2009), at 2.

indicated by the level of non-achievement of the standing targets.[931]As arguably the primary driver of RE policy, an unambitious, non-binding target does not bode well for future legislative developments.

Again in comparison to the United States, it is accepted that South Africa lacks the capacity and resources to implement all policy objectives simultaneously. However, partnering with other stakeholders to complete these tasks would be favourable. In the case of RE, such collaboration could be in the form of the CDM or public-private partnerships. While consistently listing a lack of resources as a major reason for non-implementation of targets and goals, the Government continues to block competition in the industry, and rejects private partnerships through lengthy policy formation processes and onerous legislative procedures.[932] With Eskom clearly unable to provide adequately for South Africa's energy needs by itself, the lack of a workable framework for competition and private sector involvement in the energy sector will continue to affect RE deployment in South Africa negatively. Policy has been affected in this regard, with these ideas reaching the stage of being 'Billed'.[933] However, these ideas were squashed under the premise that only Eskom was capable of dealing with the current and future energy crises of the country effectively. This absurd rationale points to a lack of political will, and with vested interests continuing to play a role in policy formation, this is not likely to change. If the issue of competition cannot be dealt with effectively, the development of the RE sub-sector is likely to suffer a fate similar to the above Bill[934] given the interconnectedness of these issues.

Another example of the effect of the lack of understanding and political will regarding the industry is the lack of legislative control and funding mechanisms. When dealing with 'cutting-edge' technologies like RE generation plants, similarly 'cutting-edge' funding models are required, and in this regard the United States has fared well. Deployment of MBIs for RE

[931] *Supra* note 92.
[932] *Supra* note 283.
[933] *Supra* note 343.
[934] *Ibid*.

support in South Africa would lead to reduced cost as compared to conventional mechanisms such as grants, direct funding and even public sector infrastructure development. Potential sources include the CDM, carbon markets and feed-in tariffs. South Africa seems loath to utilise these mechanisms, despite their strong uptake in other developing jurisdictions,[935] while existing laws on the matter are either inadequate or overly onerous. Indeed, the legal framework governing RE in South Africa is seen by investors as so 'unfriendly'[936] that a major opportunity in the CDM is being lost to countries that are seen as more welcoming. The lack of enabling legislation in South Africa is often excused on the basis of overriding economic and social consideration, which again raises questions regarding political understanding and commitment; as it is these very mechanisms that hold the potential to 'fast track' universal electrification and social upliftment.

While the three pillars of sustainable development are espoused in the current framework,[937] the realisation that the environment, economy and society are intimately linked seems not to have been reached by policymakers. At the very least, the long-term favouring of the economy over the environment and society will have an effect opposite to that which is envisioned.

Another matter for review is the clear lack of institutional accountability and independence of the numerous bodies responsible for RE deployment. These bodies include the Energy Efficiency Institute in terms of EE; NERSA and the DE in terms of sectoral regulation and the promotion of certain goals and ideals of society. This lack of institutional integration and independence leads not only to a lack of coordination, but also to reduced accountability and resource efficiency, and thus ultimately to a lack of results and progress. This, too, requires comprehensive and hard-hitting legislation.

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[935] UNFCCC CDM 'Registered project activities by host party.' Available at http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html [Accessed 11 January 2010].
[936] Mail & Guardian 'Solar power gets its place in the sun.' Available at http://www.mg.co.za/article/2009-06-09-solar-power-gets-its-place-in-the-sun [Accessed 10 January 2010].
[937] *Supra* note 479.

In conclusion, there are four key issues in South African energy policy that are constraining a successful legal framework for RE: inadequate education and awareness, the Government's lack of ambition, insufficient political 'buy-in' and ineffective implementation. While it is acknowledged that these are issues that require long-term attention, the *Energy White Paper* is over a decade old[938] and contains reference to these as yet unanswered issues. The most necessary step in addressing these issues is the promulgation of focused and comprehensive legislation. Current legislation reinforces the gap between policy and action in South Africa by being too aspirational and discretionary. When comparing the *NE Act*[939] with current policy, it is clear that there is much scope for legislative reform and development in order to take advantage of the economic, social and environmental benefits of RE. It is unfortunate that the recent promulgation of the *NE Act*[940] and *NEMAQA*[941] has not dealt with these issues adequately.

[938] *Supra* note 11.
[939] *Supra* note 28.
[940] *Ibid*.
[941] *Supra* note 806.

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